

Hartigan's K-Means Clustering

DESCRIPTION:

Returns a list representing a clustering of the data with as many groups as there are rows in `centers`.

USAGE:

```
kmeans(x, centers, iter.max=10)
```

REQUIRED ARGUMENTS:

`x`: matrix of multivariate data. Each row corresponds to an observation, and each column corresponds to a variable. Missing values are not accepted.

`centers`: matrix of initial guesses for the cluster centers. Each row represents a cluster center, and thus `centers` must have the same number of columns as `x`. The number of rows in `centers`, (there must be at least two), is the number of clusters that will be formed. Missing values are not accepted.

OPTIONAL ARGUMENTS:

`iter.max`: maximum number of iterations.

VALUE:

a list with the following components:

`cluster`: vector of integers, ranging from 1 to `nrow(centers)`, with length the same as the number of rows of `x`. The i th value indicates the cluster in which the i th data point belongs.

`centers`: matrix like the input `centers` containing the locations of the final cluster centers. Each row is a cluster center location.

`withinss`: vector of length `nrow(centers)`. The i th value gives the within cluster sum of squares for the i th cluster.

`size`: vector of length `nrow(centers)`. The i th value gives the number of data points in cluster i .

DETAILS:

The object is to find a partition of the observations with `nrow(centers)` groups that minimizes `sum(withinss)`. To actually guarantee the minimum would be computationally infeasible in many settings; this function finds a local minimum, that is, a solution such that there is no single switch of an observation from one group to another group that will decrease the objective. The procedure used to achieve the local minimum is rather complex - see Hartigan and Wong (1979) for details.

It may be necessary to scale the columns of x in order for the clustering to be sensible. The larger a variable's variance, the more important it will be to the clustering.

When deciding on the number of clusters, Hartigan (1975, pp 90-91) suggests the following rough rule of thumb. If k is the result of `kmeans` with k groups and k_{plus1} is the result with $k+1$ groups, then it is justifiable to add the extra group when

$$(\text{sum}(k\$withinss) / \text{sum}(kplus1\$withinss) - 1) * (\text{nrow}(x) - k - 1)$$

is greater than 10.

REFERENCES:

Hartigan, J. A. (1975). *Clustering Algorithms*. New York: Wiley.

Hartigan, J. A. and Wong, M. A. (1979). A k-means clustering algorithm. *Applied Statistics* 28, 100-108.

SEE ALSO:

`hclust`, `mclust`.

EXAMPLES:

```
irismean <- t(apply(iris, c(2, 3), 'mean'))
x <- rbind(iris[,1], iris[,2], iris[,3])
km <- kmeans(x, irismean)
wrong <- km$cluster!=rep(1:3, c(50, 50, 50))

spin(x, highlight=wrong)

plot(x[,2], x[,3], type="n")
text(x[!wrong, 2], x[!wrong, 3], km$cluster)
# identify cluster membership that is correct
points(x[wrong, 2], x[wrong, 3], pch=15)
# boxes for points in error
title(main="K-Means Clustering of the Iris Data")
```


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... $x(i)$ to the closest mean. so each **data point** $x(i)$... image (dimensions $1 \times (m \times n)$). N images
 of **size** ... m . call **kmeans** with D = this matrix. **kmeans** is now **clustering** ...
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Untitled

... can be of an arbitrary rectangular **size** ... circular neighborhood around each **data point** ... These
 can be used with **KMEANS** ... perform a variant of unconstrained **clustering** ...
pages.prodigy.net/keith.kintigh/programs.htm - 17k - [Cached](#) - [Similar pages](#)

[PDF] The cclust Package

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... be computed and used as a **quantity** ...
 6,20,verbose=TRUE,method="**kmeans**" ... Description Assigns
 each **data point** ... cclust" returned by a **clustering** ... Only **size** is changed
 as ...
cran.r-project.org/doc/packages/cclust.pdf - [Similar pages](#)

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... the observation that not every **data point** ... run **clustering** algorithm on CFs (**KMEANS**).
 handles anomaly 1. BIRCH **Clustering** ... should reduce **size** of tree by about ...
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... from existing clusters), and the **data point** ... N A M E D E S C R I P T I O N V A L U E **Size** Number
 of edge pairs Continuous Algorithm **Clustering** algorithm used **KMeans** ...
www.cse.unsw.edu.au/~icml2002/workshops/MLCV02/ICML02-Chen.pdf - [Similar pages](#)

S-PLUS help

... the cluster in which the i th **data point** ... **size**: vector of length $nrow(\text{centers})$ the more
 important it will be to the **clustering** ... If k is the result of **kmeans** with ...
www.uni-muenster.de/ZIV/Mitarbeiter/BennoSueselbeck/s-html/helpfiles/kmeans.html - 6k - [Cached](#) - [Similar pages](#)

scipy.net/cgi-bin/viewcvsvx.cgi/*checkout*/scipy/cluster/doc/README.txt?rev=1.1&sortby=rev

... 2D array, each row is a separate **data point** ... on my knowledge of football of what the
size ... I had to supply to the **clustering** ... The **kmeans** algorithm also does this. ...
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... 2D array, each row is a separate **data point** ... my knowledge of 164 football of what the **size** ... I had to supply to the **clustering** ... The **kmeans** algorithm also does this. ... scipy.net/cgi-bin/viewcvsvx.cgi/scipy/cluster/doc/README.txt?annotate=1.1&sortby=rev - 17k - Cached - Similar pages

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Citations: Complexity optimized data **clustering** by competitive ...

... 3 Some methods also take codebook **size** ... While in **kmeans clustering**, the cost ... for the optimization procedure in **clustering** ... is a distortion measure between **data** ...
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... cus- tomers into groups of roughly equal **size** ... The **clustering** problem is to estimate the ... Like the Eu- clidean **kmeans** case, we ... 4 to assign each **data point** to a ...
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k-means procedure

This method differs from hierarchical clustering in many ways. In particular:

- There is no hierarchy, the data are partitioned. You will be presented only with the final cluster membership for each case. There is no role for the dendrogram in *k*-means clustering.
- You must supply the number of clusters (*k*) into which the data are to be grouped.

At the end of the analysis the data will be split between *k* clusters (where *you* decide what value to assign to *k*).

The method is conceptually simple but computationally intensive. At its simplest:

- The cases are initially assigned randomly to the *k* clusters. Imagine that you split a shuffled deck of cards into two parts (*k* = 2).
- Cases are then moved around between clusters using an iterative method so that a classification is produced such that the clusters must be internally similar but externally dissimilar to other clusters.
- We stop when moving any more cases between clusters would make the clusters become more variable. For example, in the card example we might end up with a set of red cards and a set of black cards.

Cluster variability is measured with respect to their means for the classifying variables, hence the name *k-means clustering*. If more than one variable is used to define the clusters the distances (dissimilarities) between clusters are measured in multi-dimensional space (e.g. euclidean distance).

It is possible to carry out a *k*-means clustering analysis using SPSS. The following outlines some of the options.

SPSS COMMANDS k-means

INITIAL : This defines the initial cluster centres. Normally the clustering is carried out iteratively, i.e. start from some arbitrary point and refine the classification. There are circumstances in which you might wish to specify the cluster centres, for example if your data were xy coordinates you could specify nest locations as cluster centres. If you did this cases would be assigned the nearest nest. Alternatively, you might know what the mean values are for some group, for example drug abusers and normal members of the population. If you had data from some unknown case you could decide which cluster that individual should be placed into.

SELECT (default) uses widely separated cases as the initial cluster centres.

- **FIRST** uses the first *k* cases as initial cluster centres. This is the appropriate method when you wish to form many clusters and the cases are in an effectively random sequence. You **must not** use this option if the cases are in ranked order for any of the classifying variables.
- **(list)** This method allows the explicit specification of cluster centres. This can be useful in situations of the following types: you have sightings data and known nest sites or you have the locations of individuals with a particular disease and possible infection sites. In these situations you could use the nest sites or the

possible infection sites as the cluster centres.

CRITERIA : Specify the number of clusters with this command.

- CLUSTERS (k) where k is the number of clusters.
- NOUPDATA prevents any updating of cluster centres this is only effective if INITIAL () has been specified. The only subsequent processing is assigning cases to the correct cluster.

PRINT defines the output from the procedure.

- CLUSTER cluster membership for each case.
- DISTANCE distances between all cases.
- ANOVA Single factor ANOVA for each variable between all clusters. The H_0 for each analysis is *Ho: There is no significant difference in variable i between clusters*. However, because cases are assigned to clusters to maximise their differences we cannot interpret the results of these Null Hypotheses to indicate an overall significant difference between clusters. In other words although two or more clusters may differ with respect to one or more variables this does **not** mean that the clusters themselves differ significantly. This is because the distances between clusters must be measured through a multi-dimensional space which is defined by all of the clustering variables, and not via a restricted set of dimensions (variables) defined by significant differences in an ANOVA.



Return to Cluster Analysis

TOOLS FOR QUANTITATIVE ARCHAEOLOGY

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November 29, 1998

Tools for Quantitative Archaeology is a commercial package of microcomputer programs developed to satisfy the unusual analytical needs of archaeologists. The focus of the package is on methods developed for archaeology and not included in general-purpose statistical packages. While this package can perform many important analyses, it is not a complete substitute for a general purpose statistical package. While this web site describes each of the programs in the package, at the moment, the graphics display poorly over the web. However they are, in fact, publishable quality vector graphics that can be printed directly on a printer or plotter that supports HPGL or may be manipulated and printed by most programs that process graphics, including word processors. A few programs highlighted in purple, are available, without obligation, as freeware and can be downloaded from this web site.

Spatial Analysis Module

CONTIG - Monte Carlo evaluation of the statistical significance of the observed degree of contiguity of grid units assigned to the same cluster. This is useful when the cluster assignments have been derived in a way that is independent of their spatial location, for example, in an unconstrained clustering analysis. You may download [contig.zip](#), which includes the program and a sample data file.

FISHER - Calculates Fisher's Exact test, useful for mean- or median-split grid count analyses such as those described by Spurling and Hayden (1984).

GRID - Aggregates point-provenience data into counts by type for each grid unit. The grid can have any origin and grid units can be of an arbitrary rectangular size. A weighting option permits use of GRID on data sets in which multiple objects at the same location are recorded on a single input record. The program can be used in performing a grid-based variant of Whallon's unconstrained clustering with a point- provenienced data set.

HOA - Computes Hodder and Okell's A and dispersion ratios (Hodder and Okell 1978). An extension permits Monte Carlo analysis of significance.

KMEANS - Performs k-means cluster analysis with extensive output designed to facilitate interpretation. The program can be used to cluster analyze any data set, but has special features developed for use in archaeological spatial analysis. In particular, Kintigh and Ammerman's (1982) *k*-means *pure locational clustering* method can be performed. The program also executes the clustering for Whallon's (1984) *unconstrained clustering* method on data smoothed using the GRID or LDEN

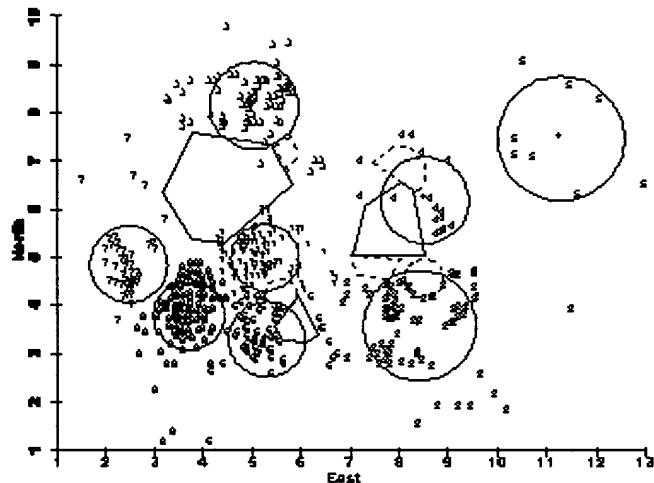


Figure 1. KMEANS Pure Spatial Clustering of Mask Site Artifacts, 8 Cluster Solution Output By KMPLT.

programs. Program limits are 2000 points or 30 variables (but no more than about 8000 data values). Results can be plotted with the KMPLT utility.

KMPLT - Plots the SSE and (2 dimensional) cluster configuration results of KMEANS on screen and creates hard-copy publishable quality plots (Figure 1).

KOETJE - Performs the Monte Carlo analysis of homogeneity of cluster configurations as suggested by Koetje (1987). Uses the output file from KMEANS or reads separate data sets consisting of counts of artifact class by cluster. An extension permits evaluation of individual cluster probabilities.

LDEN - Performs Johnson's (1984) Local Density Analysis on point-provenience or grid data. The program also outputs counts or percentages of points of different types that occur within a circular neighborhood around each data point. These can be used with KMEANS to perform a variant of unconstrained clustering (Whallon 1984). LDEN can handle in excess of 2000 points with two variables or a smaller number of observations with up to 30 types. In a single run, it computes inter-type local density coefficients for any number of radii that can be plotted with LDPLT.

LDPLT - Plots selected local density coefficients computed by LDEN against radius, so behavior of coefficients for different pairs of classes can be easily observed over a range of radii (Figure 2).

NEIG - An efficient, general-purpose nearest-neighbor (Whallon 1984) and gravity model program useful for intrasite spatial analysis or regional analysis. It allows categorization of items by class (e.g. site type or tool type) and permits the calculation of within or between class neighbors. Output includes nearest-neighbor statistics, summary data about the classification of nearest neighbors for points of each class and lists of the first n nearest-neighbors for each point. The program will handle between 2000 and 5000 points for an analysis of first nearest neighbors, but is limited by computer memory. Monte Carlo analyses of significance can be performed.

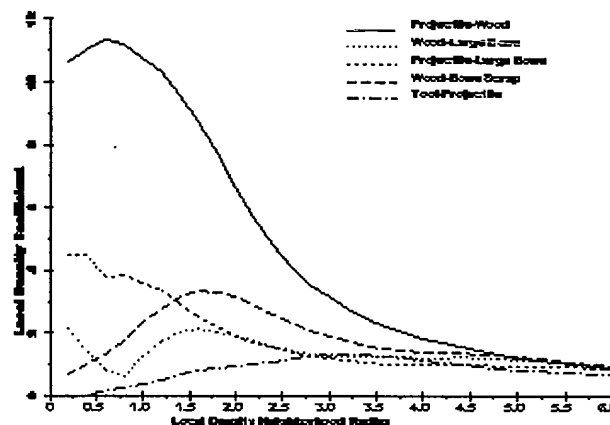


Figure 2. Local Density Analysis of Mask Site Artifact Classes, Intertype Coefficients Computer by LDEN and Output by LDPLT.

RANDPT Generates random sets of coordinates for clumped distributions with different parameters. Available for free in [randpt.zip](#) are DOS executable file and the pascal source code that serves as documentation. This program was written for my own research and I have not drafted separate documentation.

Diversity Module

BOONE - Calculates, for a set of proveniences with counts by artifact class, Boone's (1987) assemblage heterogeneity measure and related values.

DIVERS - Calculates richness and evenness (H/H_{max}) dimensions of diversity for a given data set and uses Monte-Carlo methods to derive expected diversity for a model distribution over a range of sample sizes (Kintigh 1984, 1989). It is capable of handling large problems efficiently. Results can be plotted

with the utility DIVPLT.

DIVMEAS - Calculates several diversity measures including Richness, Simpson's, Shannon's, Brillouin's, and the Renyi and Delta families of generalized diversity measures for any given distribution of counts.

DIVPLT - Plots the results of DIVERS on screen and creates publishable quality plots (Figure 3).

Distance Module

ARRANGE - creates a probabilistic estimate of the range of site dates based on the proportions of dated ceramic types in the assemblage. Output includes a density plot against time. The program also calculates mean ceramic dates. This method is described in Steponaitis and Kintigh (1993). The DOS executable file, a documentation file, sample data, and output files can be downloaded as, [arrange.zip](#).

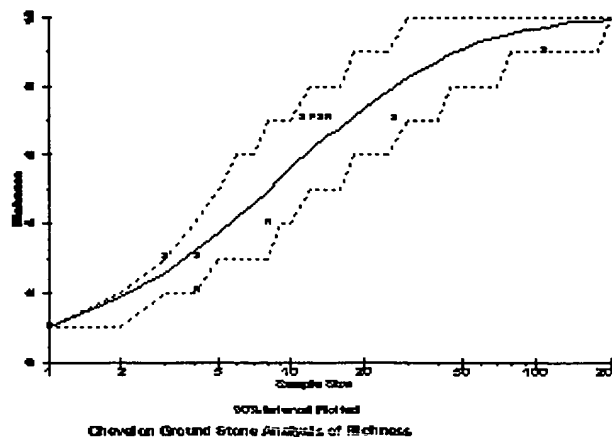


Figure 3. DIVERS Monte Carlo Analysis of Chevelon Ground Stone Richness, Output by DIVPLT.

BAYES - This program implements Bayesian methods for proportions as described by Iversen (1984). Intervals are calculated and graphed for Bayesian estimates of proportions based on both flat and informative priors.

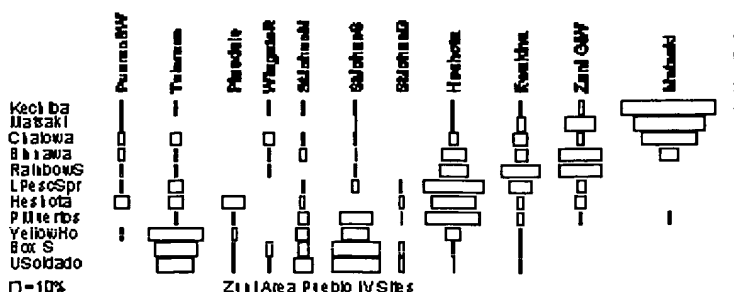
BINOMIAL - Computes binomial probabilities and population proportion intervals for a sample.

BRSAMPLE - Provides a Monte Carlo estimate of the sampling error of differences of the Brainerd Robinson coefficient calculated between a sample and a known population or between two samples drawn from the same population.

CLCA - Performs a Complete Linkage Cluster Analysis on up to 180 cases. It takes as input an upper triangular distance matrix, as is created by the DIST program. As output, it lists the sequence of item/cluster joins and fusion values but does not create a dendrogram.

DIST - Computes a triangular matrix of distance or similarity measures: Euclidean Distance, Pearson's r , Brainerd-Robinson Coefficient, Jaccard's Coefficient, Simple Matching Coefficient, and Gower Coefficient. It handles up to 180 cases with 16,000 total input values (88 variables for 180 cases).

FORD - Plots a publishable quality battleship curve (Ford) diagram on the screen and optionally to a hard copy device. It reads a file of percents of types (columns) by provenience (rows) and optional row and column labels. The program permits



interactive elimination or reordering of the rows and columns and replotting of the data.

POISSON - Computes Poisson and negative binomial probabilities, given expected counts.

TWOWAY - provides tests of independence and measures of association and prints tables that have been standardized with a number of techniques. Standard χ^2 and G tests of independence are provided. Using Monte Carlo methods, χ^2 and G tests can be performed on tables with very small expected counts. A χ^2 goodness of fit test (with externally determined expected values) can also be calculated. Measures of association include Yule's Q, Phi, Cramer's V and proportional reduction of error measures Tau and Lambda. Table standardization methods include median polish (Lewis 1986) and Mosteller (multiplicative) standardization as well as Haberman's z-score standardization for independent variables used by Grayson (1984) and Allison's binomial probability-based z-score standardization. It will also print row, column, and cell percents, χ^2 cell contributions, and χ^2 expected values.

C14 Analysis Module

C14 - provides a graphical way to analyze sets of radiocarbon dates. Each radiocarbon date is treated not as a single point in time but as a normally distributed probability with a mean and standard deviation given by the lab. In evaluating several dates, for each interval the probability distributions associated with the dates are summed. For each temporal interval, an *expected* number of dates is calculated and plotted in a histogram.

DSPLIT - Compares and combines radiocarbon samples using the procedure published in *Archaeometry* by Wilson and Ward (1981). Documentation is limited to a description of the program prompts.

Subsurface Testing Module

PLACESTP calculates the optimal placement of test units in a rectangular or linear survey area. For a user-specified number of survey transects (or user-specified lengthwise and width-wise spacing of test units), in any one of three basic configurations, the program will print out the coordinates of the optimal test unit placement, along with some statistics about the largest circular site that can go unsampled in the survey area. This program implements the formulae provided by Krakker, Shott, and Welch 1983 and revised in Kintigh 1988.

STP - Probabilistic evaluation of subsurface testing designs as described in Kintigh 1988. STP uses Monte-Carlo methods to evaluate the effectiveness of a test unit layout within a survey area to locate sites with a given size and artifact density.

Utility Module

ADFUTIL - Generates random data sets and manipulates files in the data format used by the analysis programs. It allows the creation of random data set of any size. Variables may be uniform or normally distributed variables with user specified ranges or means standard deviations. ADFUTIL allows the deletion of columns (variables), selective deletion of rows (observations) based on values in a column, replacement of values in a column, randomization of columns for Monte Carlo analysis, the addition of new columns from another data set, and selection of a random sample of cases.

CNTCNV - Program to speed data input and increase entry accuracy for count data, where the number of categories is large relative to the number of items counted for an observation (e.g. surface collection

counts of 40 ceramic type divided into 8 vessel forms). It permits a highly abbreviated input format but it writes out a standard matrix (of the sort read by most analysis programs) with one count per category of each observation. The program provides labeled printouts of the data and can perform elaborate aggregation of count categories and simple aggregation of observations.

CONVSYS - Converts a SYSTAT internal format data file into a raw data file, a variable label file, and a case label file that can be used these and other programs that read free-format ASCII data. Works with versions 2.0 and above of SYSTAT, on files of any size.

HPLOT provides a flexible user interface to a Hewlett Packard compatible plotters. Its can create a customized analysis graphics from a raw data file edited to include the plot commands.

MVC - Permits arbitrarily complex copying of sets of columns in an input record into sets of columns in an output record. It can extract data from fixed-format data records for use with analytical programs that require free format input. Files of any size can be processed.

SCAT - Produces screen and publishable quality scatter plots of variables. All points may be plotted with the same symbol, or different symbols can be plotted based on the value of a variable.

SORTLINE - A general purpose sort utility, SORTLINE sorts fixed-format data files of up to 32,767 lines into an order defined by any number of user-specified sort fields.

SPLIT - divides a large file into sections that can be recombined with the DOS COPY command. Thus, large hard disk file can be split and copied onto several floppies.

UNTAB - Replaces tabs and control characters in a file with blanks so they can be used with analysis programs that require pure ASCII files (e.g. SYSTAT).

Set	Items	Description
S1	893	KMEAN? OR KMEDIAN? OR KPROTOTYP? OR K() (MEAN? ? OR MEDIAN? OR PROTOTYP?)
S2	12402892	CLUSTER? OR DATACLUSTER? OR GROUP? OR ORGANIZ? OR ORGANIS? OR ARRANGE? OR CLASSIF?
S3	11266160	BOUNDAR? OR EDGE? OR LIMIT? OR LINE? OR PARTITION? OR BORD- ER? OR DIVIDER?
S4	6389847	CENTER? OR CENTRE? OR CENTRAL?
S5	13204001	SIZE? OR MAGNITUDE? OR NUMBER? OR AMOUNT? OR QUANTIT? OR T- OTAL? ? OR COUNT OR COUNTS
S6	8	S1(S)S2(S)S3(S)S4(S)S5
S7	25	S1(10N)S2(10N)(S3 OR S4)(10N)S5
S8	28	S6 OR S7
S9	26	RD (unique items)
S10	23	S9 NOT PY>2000
S11	22	S10 NOT PD>20001004
File 275:	Gale Group Computer DB(TM)	1983-2002/Sep 23 (c) 2002 The Gale Group
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File 647:	CMP Computer Fulltext	1988-2002/Sep W1 (c) 2002 CMP Media, LLC
File 98:	General Sci Abs/Full-Text	1984-2002/Aug (c) 2002 The HW Wilson Co.
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01338105 SUPPLIER NUMBER: 09661055
Simultaneous fitting of several planes to point sets using neural networks.
(technical)
Kamgar-Parsi, Behrooz; Kamgar-Parsi, Behzad
Computer Vision, Graphics & Image Processing, v52, n3, p341(19)
Dec, 1990
DOCUMENT TYPE: technical ISSN: 0734-189X LANGUAGE: ENGLISH
RECORD TYPE: ABSTRACT

ABSTRACT: A method is developed for fitting a **number** of **lines** or planes to sets of points in three-dimensional space that uses an artificial neural network to achieve a 'very good' though maybe not optimal solution. The extrapolation of **line**, surface, and shape from sets of points is a **central** problem in pattern recognition and computer vision. The problem becomes exponentially more complex with the increasing **number** of points. The new approach uses an optimization technique similar to the **K - means** method of **clustering** data points into compact clubs but is more robust when resolving noisy data and can...

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03718189 SUPPLIER NUMBER: 12222086 (USE FORMAT 7 OR 9 FOR FULL TEXT)
High-frequency network oscillation in the hippocampus.
Buzsaki, Gyorgy; Horvath, Zsolt; Urioste, Ronald; Hetke, Jamille; Wise, Kensall
Science, v256, n5059, p1025(3)
May 15, 1992
CODEN: SCIEAS ISSN: 0036-8075 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 2171 LINE COUNT: 00174

... using a 10-kHz sampling rate on each channel and 12-bit resolution.
[8]A **K - means clustering** algorithm was used for spike separation. The spikes were represented as points in a ten...

...in that space. An iterative procedure was used to find the local minimum of the **partition** error, and the **number** of separate unit **clusters** was determined by variance ratios [D. H. Perkel, G. L. Gerstein, G. M. Moore, Biophys....

...Buzsaki, Zsolt Horvath, Ronald Urioste, Jamille Hetke, Kensall Wise G. Buzsaki, Z. Horvath, R. Urioste, **Center** for Molecular and Behavioral Neuroscience, Rutgers University, 197 University Avenue, Newark, NJ 07102. J. Hetke and K. Wise, **Center** for Integrated Sensors and Circuits, University of Michigan, Ann Arbor, MI 48109.

11/3,K/3 (Item 2 from file: 47)
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03397052 SUPPLIER NUMBER: 08968141 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Regularization algorithms for learning that are equivalent to multilayer networks.
Poggio, T.; Girosi, F.
Science, v247, n4945, p978(5)
Feb 23, 1990
CODEN: SCIEAS ISSN: 0036-8075 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT
WORD COUNT: 4517 LINE COUNT: 00364

... k-means algorithm [32]] and can be interpreted as a learning scheme in which the **centers** of the radial functions move to find **centers** of **clusters** of input vectors [33]. Coarse coding techniques and product units [34] can be interpreted neatly...

11/3,K/4 (Item 1 from file: 239)

DIALOG(R) File 239:Mathsci

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02812716 MR 98h#62153

Pairwise partitioning: a nonmetric algorithm for identifying feature-based similarity structures.

Hutchinson, J. Wesley (Department of Mathematics, University of Florida, Gainesville, Florida, 32611)

Mungale, Amitabh

Corporate Source Codes: 1-FL

Psychometrika

Psychometrika. A Journal of Quantitative Psychology, 1997, 62, no. 1, 85--117. ISSN: 0033-3123 CODEN: PSYKA2

Language: English Summary Language: English

Subfile: MR (Mathematical Reviews) AMS

Abstract Length: LONG (154 lines)

Reviewer: Samejima, Fumiko (1-TN-A)

...and margarine, English muffin and margarine, etc.). Three approaches, unrestricted, restricted and threshold-based pairwise **partitionings**, were taken. To reduce the **number** of features in the unrestricted approach, using the k -**mean** algorithm, very similar **clusters** were replaced by a single **cluster** comprised of items common to all **clusters**, setting the maximum **number** of **clusters** to $2N$, $3N/2$, N , and $N/2$, respectively. For the threshold-based algorithm, four...

11/3,K/5 (Item 2 from file: 239)

DIALOG(R) File 239:Mathsci

(c) 2002 American Mathematical Society. All rts. reserv.

02465142 MR 94j#62136

PP k -mean clustering.

Zhang, Di Xin

Zhu, Li Xing (Institute of Applied Mathematics, Academia Sinica, Beijing, Peoples Republic of China)

Corporate Source Codes: PRC-ASBJ-AM

Systems Sci. Math. Sci.

Systems Science and Mathematical Sciences, 1993, 6, no. 4, 289--295. ISSN: 1000-9590

Language: English Summary Language: English

Subfile: MR (Mathematical Reviews) AMS

Abstract Length: SHORT (7 lines)

Reviewer: Gordon, A. D. (4-STAN)

The authors combine projection pursuit and k -**means clustering** by proposing to seek a one-dimensional projection of points which minimizes the **total** within-class sum of squares divided by the **total** dispersion along that direction. It is shown that the optimal direction and **cluster centres** converge almost surely to the direction and **centres** that minimize the analogous population coefficient.

11/3,K/6 (Item 3 from file: 239)

DIALOG(R) File 239:Mathsci

(c) 2002 American Mathematical Society. All rts. reserv.

02346994 MR 84a#62088

Asymptotic properties of bivariate k -means clusters.

Wong, M. Anthony

Comm. Statist. A---Theory Methods

Communications in Statistics. A. Theory and Methods, 11, no.
10, 1155--1171. ISSN: 0361-0926 CODEN: CSTMDC
Language: English
Subfile: MR (Mathematical Reviews) AMS
Abstract Length: SHORT (10 lines)
Reviewer: Della Riccia, G. (Udine)

...a uniform density function defined over it is partitioned into k subregions such that the **cluster** sum of squares within is minimized. An asymptotic $(k \rightarrow \infty)$ lower bound for the within **cluster** sum of squares of this optimal **k - means partition** is obtained. This lower bound is useful in suggesting that the graph-configuration of the optimal **k-partition** would consist of regular hexagons of equal **size** when k is sufficiently large. An empirical study illustrating these asymptotic properties of bivariate **k - means clusters** is also presented." ...

11/3,K/7 (Item 1 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)
(c) 2002 ProQuest Info&Learning. All rts. reserv.

02186486 74659412

Profiles of MIS doctoral candidates: Ideals and reality
Larsen, Kai R T; Neely, M Pamela
Database for Advances in Information Systems v3ln3 PP: 64-77 Summer 2000
ISSN: 1532-0936 JRNL CODE: DFA
WORD COUNT: 6556

...TEXT: or greater standard deviations did not decide most of the positioning of cases. The iterative **partitioning** technique **K - means** was chosen to create the **clusters**, and the threedimensional space was split into eight equal areas with the corner furthest away from the middle of the **total** space used as the starting point for **cluster** analysis. The choice of eight areas was made because an analysis of the data with...

11/3,K/8 (Item 2 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)
(c) 2002 ProQuest Info&Learning. All rts. reserv.

01970643 46813088

Clustering and the design of preference-assessment surveys in healthcare
Lin, Alfred; Lenert, Leslie A; Hlatky, Mark A; McDonald, Kathryn M; Et al
Health Services Research v34n5 PP: 1033-1045 Dec 1999
ISSN: 0017-9124 JRNL CODE: HSR
WORD COUNT: 3192

...TEXT: subjects into eight groups. The same three variables, each split into thirds, will yield 27 **groups**, a prohibitive number in most applications. One disadvantage of this division at fixed percentiles is that the resulting subgroups may have vastly unequal **numbers** of subjects. Further, if the three variables are highly correlated, then perhaps two or three **clusters**, rather than eight, might be enough. The approach of **kmeans clustering**, by contrast, seeks to allow the data to "speak for themselves" in determining the **number** of genuinely distinct **groups** present in the data.

The technique of **k - means clustering** is conceptually simple. The algorithm starts with an arbitrary set of k initial values for the **cluster centers**, such as k randomly selected points from the data set. The algorithm then divides the...

11/3,K/9 (Item 3 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)
(c) 2002 ProQuest Info&Learning. All rts. reserv.

01718732 03-69722

Empirically defined health states for depression from the SF-12

Sugar, Catherine A; Sturm, Roland; Lee, Tina T; Sherbourne, Cathy D; et al
Health Services Research v33n4 (Part 1 Supplement) PP: 911-928 Oct 1998
ISSN: 0017-9124 JRNL CODE: HSR
WORD COUNT: 6661

...TEXT: choosing the point that is both closest and has the lowest index. Define the *i*th **cluster** to be all points in the data set that are closest to the point *c_i*. Calculate the sum of squared distances from the data points to their respective **cluster centers** *c_s*. This **quantity** is the distortion. The **k - means** algorithm defines the optimal set of **cluster centers** to be the set of points *c₁*, *c₂*, . . . , *c_k* for which distortion is minimized. Data points are then assigned to **clusters** as before. It is not obvious how to find the cluster centers specified by the...

... Several issues are of technical concern regarding use of the Lloyd algorithm for **k-means clustering**, including the choice of dimensions on which to **cluster**, scaling of the dimensions, and initialization of the algorithm. Interested readers can find details on our Website at [Http://preferences.stanford.edu/ cluster _...](http://preferences.stanford.edu/cluster_...)

...details.html Note also that the **k - means** algorithm specifies **cluster membership** once the **number of clusters** is fixed, but does not specify the **number of clusters** that should be used. We will discuss this issue since it is a **central** part of our method for formulating models. Since the **cluster centers** are chosen based on distortion, the root mean-squared distance to **cluster centers** (hereafter called RMSE for root mean-squared error) seems a natural criterion. There is a clear trade-off between too few **clusters** and too many. With a single **cluster**, RMSE is large. With as many **clusters** as data points, RMSE is 0. In neither instance are the data summarized in a meaningful manner. For any given data set, a plot of RMSE versus **number of clusters** will produce a steadily decreasing curve. Typically, at some point, the rate of decrease will drop sharply because the data are genuinely clumped into a fixed **number of clusters**. The "kink" in the curve where the slope changes most abruptly determines the optimal **number of clusters**. It is often possible to identify the range of reasonable values for *k* by visual inspection. However, one can pinpoint the kink more precisely by fitting a broken- **line** regression to the RMSE curve. (See Sugar, Sturm, Lee, et al. 1997 for a discussion...

... Tibshirani 1993 for details.) We used tenfold cross-validation on our data set, and tried **numbers of clusters** from *k* = 2 to *k* = 16. For the best models that we identified by means of our RMSE plot, we estimated the **cluster centers** as accurately as possible by using all the data.

We compared the relative efficiency of

11/3,K/10 (Item 4 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)
(c) 2002 ProQuest Info&Learning. All rts. reserv.

01285686 99-35082

An empirically derived taxonomy of information technology structure and its relationship to organizational structure

Fiedler, Kirk Dean; Grover, Varun; Teng, James T C
Journal of Management Information Systems: JMIS v13n1 PP: 9-34 Summer 1996
ISSN: 0742-1222 JRNL CODE: JMI
WORD COUNT: 10311

...TEXT: are significantly different from each other using multivariate analysis of variance. In this case, each **group**'s observed *F* statistic revealed differences significant at the 0.001 level. To gain further confidence in the chosen **clusters**, nonhierarchical **cluster analysis** or **K - means clustering** was used to determine **cluster grouping** and characteristics. Nonhierarchical **cluster analysis** starts with a

predefined number of clusters and centers for each of the clusters .
The method then clusters all the cases that fall within a set distance to
each of the defined group...

11/3,K/11 (Item 5 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)
(c) 2002 ProQuest Info&Learning. All rts. reserv.

01243235 98-92630

**The application of cluster analysis in strategic management research: An
analysis and critique**

Ketchen, David J Jr; Shook, Christopher L
Strategic Management Journal v17n6 PP: 441-458 Jun 1996
ISSN: 0143-2095 JRNL CODE: SMJ
WORD COUNT: 11577

...TEXT: these problems, confidence in the validity of a solution obtained
using only hierarchical methods is limited .

Nonhierarchical algorithms (also referred to as K - means or iterative
methods) partition a data set into a prespecified number of clusters .
Specific nonhierarchical methods vary slightly, but function in essentially
the same manner (Hair et al., 1992). After initial cluster centroids (the
' center points' of clusters along input variables) are selected, each
observation is assigned to the group with the nearest centroid. As each
new observation is allocated, the cluster centroids are recomputed.
Multiple passes are made through a data set to allow observations to change
cluster membership based on their distance from the recomputed centroids.
To arrive at an optimal solution, passes through a data set continue until
no observations change clusters (Anderberg, 1973).

Nonhierarchical methods have two potential advantages over hierarchical
methods. First, by allowing observations...

11/3,K/12 (Item 6 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)
(c) 2002 ProQuest Info&Learning. All rts. reserv.

01135946 97-85340

**Behavior- and outcome-based sales control systems: Evidence and
consequences of pure-form and hybrid governance**

Oliver, Richard L; Anderson, Erin
Journal of Personal Selling & Sales Management v15n4 PP: 1-15 Fall 1995
ISSN: 0885-3134 JRNL CODE: JPN
WORD COUNT: 7460

...TEXT: control philosophy are discussed in O&A. They are used here
without modification.

Analysis

A k - means clustering approach was chosen because of the large sample
size and because cluster memberships were not known in advance.
Approaches based on k - means are iterative in that many cluster
center estimations are calculated, all based on a pre-specified number
(k) of clusters , until no cluster centroid can be found which improves
cluster separations. Using the z-scores from the behavior control
classification criteria as clustering variables, k was varied from a
low of two until solutions containing less than 10...

11/3,K/13 (Item 7 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)
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00997228 96-46621

Process shift modes

Wu, Zhang

International Journal of Quality & Reliability Management v12n1 PP: 53-60
1995

ISSN: 0265-671X JRNL CODE: IJQ

WORD COUNT: 2763

...TEXT: Figure 2 is displayed on the screen of a computer, the user can perceive three **clusters** and input a starting value (guessed value) for each cluster centre to the computer program...

... the clustering algorithm places each pattern into an appropriate cluster, and works out final cluster **centres**. Each cluster corresponds to a shift mode. The **cluster centre** (characters omitted) is taken as the estimate of the magnitude of the shift mode, called **clustered magnitude**. The ratio (characters omitted) between the **number** of patterns in the *i*th **cluster** and the **total number** of patterns is called the **clustered** occurrence probability of the *i*th shift mode.

The original **K - Mean clustering** algorithm takes the mathematical mean of the patterns as the **cluster centre**. However, we use the weighted mean to evaluate the **cluster centre**:

(Equation 7 omitted)

where $q_{sub\ i}$ is the number of patterns in the...

11/3,K/14 (Item 8 from file: 15)

DIALOG(R)File 15:ABI/Inform(R)

(c) 2002 ProQuest Info&Learning. All rts. reserv.

00983241 96-32634

Design for manufacturabilty and time-to-market - Part 2: Some empirical findings

Youssef, Mohamed A

International Journal of Operations & Production Management v15n1 PP:
6-23 1995

ISSN: 0144-3577 JRNL CODE: IJO

WORD COUNT: 4902

...TEXT: such that high rating reflects shorter time-to-market.

Statistical analysis and results

Cluster analysis

Cluster analysis is a multivariate statistical technique usually used for **partitioning** a set of observations into a **number** of homogeneous **groups**. In this article, **cluster** analysis is used in two stages. The agglomerative algorithm of **clustering** procedure, of SPSSPC + (Version 5.0), with a complete linkage was used. The resulting dendogram showed that the data is best described by three **clusters**. Using this **number** of **clusters** as an input for subsequent analysis, a quick **cluster** procedure of the same package with **k - means** algorithm was run. Table II shows the final **cluster centres** and **number** of cases in each **cluster**. (Table II omitted)

Almost 56 per cent of the sample are characterized as having a...

11/3,K/15 (Item 9 from file: 15)

DIALOG(R)File 15:ABI/Inform(R)

(c) 2002 ProQuest Info&Learning. All rts. reserv.

00725133 93-74354

The Multiple Depot Vehicle Routing Problem with Backhauling

Min, Hokey; Current, John; Schilling, David

...TEXT: 1)-(5). The possible routes, X sub ijk , were determined using the customer and vendor **clusters** generated in the previous stage. In **total** , there were 627 of these variables. The centroids of the **clusters** were used to determine the intercluster distances. The centroid of each **cluster** was obtained using the MacQueen's **k - means partitioning** procedure.(25) The obtained centroids are given in Tables 2 and 3. These centroid coordinates...

11/3,K/16 (Item 10 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)
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00463794 89-35581

A DBT-Based VLSI Systolic Architecture for Hard Squared Error Clustering

Zapata, E. L.; Doallo, R.; Barro, S.

Microprocessing & Microprogramming v27n1-5 PP: 299-305 Aug 1989

ISSN: 0165-6074 JRNL CODE: EUJ

ABSTRACT: In the field of pattern recognition and image processing, one of the most popular **groups** of **clustering** techniques is based on the least squared error (minimum variance) criterion. Comparison of the various implementations of this method has shown that one of the best is the **K - means** algorithm. A very large-scale integration (VLSI) systolic architecture is presented for solving squared error **clustering** (SEC) problems of arbitrary **size** with an array of fixed **size** . The array design assumes that the data fed in the system have been subjected to the dense to band matrix transformation by triangular block **partitioning** (DBT transformation). A detailed architectural configuration for the hard **K - means** algorithm is developed. The modularity and regularity of the system architecture make it suitable for VLSI implementation. In the **K - means** algorithm, the updating of the **K cluster centers** alternates with reassignment of the data points to the **clusters** using a **classifier** function until a halt criterion is satisfied. ...

11/3,K/17 (Item 1 from file: 98)
DIALOG(R)File 98:General Sci Abs/Full-Text
(c) 2002 The HW Wilson Co. All rts. reserv.

04045001 H.W. WILSON RECORD NUMBER: BGSA99045001 (USE FORMAT 7 FOR FULLTEXT)

Spatial variation of anthropometric traits in Ireland.

North, Kari E

Crawford, Michael H; Relethford, John H

Human Biology (Hum Biol) v. 71 no5 (Oct. 1999) p. 823-45

SPECIAL FEATURES: bibl il map ISSN: 0018-7143

LANGUAGE: English

COUNTRY OF PUBLICATION: United States

WORD COUNT: 8860

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

... towns in Ireland. Third, the similarity of correlograms was analyzed to categorize the variables into **groups** of similar spatial patterns. The Bonferroni significant correlograms were subjected to a nonhierarchic **clustering** procedure (a **k means cluster** analysis) to detect **clusters** of spatial patterns. The **number** of **clusters** to be interpreted was determined following the method of Krzanowski and Lai (1988). This method selects the best **cluster partition** so that the pooled sum of squares within **groups** is minimized. Following Sokal, Harding et al. (1989), correlograms allocated to each **k means cluster** were averaged to provide a summary measure of the spatial patterns in these

data.

The...

11/3,K/18 (Item 1 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB

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11483115 SUPPLIER NUMBER: 57472166 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Robustness properties of k means and trimmed k means.

Garcia-Escudero, Luis; Gordaliza, Alfonso

Journal of the American Statistical Association, 94, 447, 956(1)

Sept, 1999

ISSN: 0162-1459 LANGUAGE: English RECORD TYPE: Fulltext; Abstract

WORD COUNT: 7452 LINE COUNT: 00607

... medoids ((Phi)(x) = x, (Psi)(x) = sign(x)) have finite gross-error sensitivity.

b. Generalized **k means** have infinite local-shift sensitivity because of the discontinuities of the IF's at the **boundary** of the **clusters**. Small shifts in the **boundary** of the **clusters** can cause the estimators to change by relatively large **amounts**. Moreover, as in the case of location M estimators, if the function (Psi) is

11/3,K/19 (Item 2 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB

(c)2002 The Gale Group. All rts. reserv.

10948467 SUPPLIER NUMBER: 54371078 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Advanced MFL signal analysis aids pipe corrosion detection.(Corrosion and Pipe Protection)(magnetic flux leakage)

Haines, Harvey; Porter, Patrick C.; Barkdull, Lisa; Afzal, Muhammad; Lee, Jun-Youl

Pipe Line & Gas Industry, 82, 3, 49(9)

March, 1999

ISSN: 1079-8765 LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 5261 LINE COUNT: 00446

... of wavelets as basis functions and has sets of wavelet function nodes depending on the **number** of resolutions. At the coarsest level, the **centers** are estimated using the **K - Means clustering** algorithm.

From the second resolution onward, a dyadic scheme is used to determine the **centers**. The approach has one major advantage: the user has control over the prediction accuracy level...

11/3,K/20 (Item 3 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB

(c)2002 The Gale Group. All rts. reserv.

10948259 SUPPLIER NUMBER: 54370474 (USE FORMAT 7 OR 9 FOR FULL TEXT)

The validity of collective climates.

Gonzalez-Roma, Vicente; Peiro, Jose M.; Lloret, Susana; Zornoza, Ana

Journal of Occupational and Organizational Psychology, 72, 1, 25(1)

March, 1999

ISSN: 0963-1798 LANGUAGE: English RECORD TYPE: Fulltext; Abstract

WORD COUNT: 7820 LINE COUNT: 00710

... the coefficient. 'A jump implies that two relatively dissimilar clusters have been merged; thus the **number** of **clusters** prior to the merger is the most probable solution' (Aldenderfer & Blashfield, 1984, p. 57).

After a set of initial **clusters** had been selected in this way, a non-hierarchical **k means clustering** procedure was used to improve the results. Once an initial **partition** had been specified, the means (centroids) of the **clusters** were computed, and Euclidean distances to all **cluster** means were calculated. Then cases were assigned to the nearest

cluster thus reducing the cooled...

11/3,K/21 (Item 4 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2002 The Gale Group. All rts. reserv.

05929879 SUPPLIER NUMBER: 13022559 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Fairness in prospective payment: a clustering approach.
Stefos, Theodore; LaVallee, Nicole; Holden, Frank
Health Services Research, v27, n2, p239(23)
June, 1992
ISSN: 0017-9124 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 7814 LINE COUNT: 00645

... performed. As a first stage, Ward's hierarchical method was used to select the appropriate **number** of **groups** and the initial hospital **partition** to use as input into the second-stage **K - means** iterative method. The **number** of **groups** in the first stage was selected based on the point where the [R.sup.2] statistic changed by less than 5 percent.

Variables with larger **magnitudes** and variances have a greater influence on cluster outcomes. Therefore, variables in this study, which... labor markets.

All data are from the 1986 fiscal year. Hospital aggregate data from a **total** of 159 VA hospitals were used in this analysis. The six independent VA outpatient clinics were not included.

RESULTS

The results of the first-stage **grouping** (not detailed here) using Ward's methodology indicated that a **partition** of the 159 VA facilities into six hospital **groups**, determined from the [R.sup.2] criterion, would be appropriate for the **K - means** second stage. The profiles of the six **groups** from the **K - means** second stage with a comparison of **group** means for several variables are presented in Tables 1, 2, and 3. The tables appear to show a marked difference in hospital **groups** on the basis of **size**, scope of services provided, and educational responsibilities. A comparison of the group characteristics in Tables...

11/3,K/22 (Item 5 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2002 The Gale Group. All rts. reserv.

05196046 SUPPLIER NUMBER: 10929268 (USE FORMAT 7 OR 9 FOR FULL TEXT)
The dimensionality of consumption emotion patterns and consumer satisfaction.
Westbrook, Robert A.; Oliver, Richard L.
Journal of Consumer Research, v18, n1, p84(8)
June, 1991
ISSN: 0093-5301 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 5166 LINE COUNT: 00460

... and Reilly 1983).

Data Analysis

A taxonomic analysis of consumer emotions was performed via a **k - means cluster** analysis of subjects' standardized scores for the 10 DES-II measures. Using an average multiple random-seed initial **cluster centers**, we examined two- **cluster** through 10- **cluster** solutions. On the basis of interpretation, goodness of fit, and a desired minimum **cluster size** of 10 percent of the sample, a five- **cluster** solution was chosen for further analysis. Hierarchical **clustering** was also performed, and, although both the hierarchical and **k - means clustering** solutions produced comparable results, the latter were preferred inasmuch as they yielded more compact and distinct **clusters**. The dimensionality of the inter- **cluster** differences was then examined with discriminant analysis that used the original DES-II emotion measures...

Set	Items	Description
S1	1248	KMEAN? OR KMEDIAN? OR KPROTOTYP? OR K() (MEAN? ? OR MEDIAN? OR PROTOTYP?)
S2	1083146	CLUSTER? OR DATACLUSTER? OR GROUP? OR ORGANIZ? OR ORGANIS? OR ARRANGE? OR CLASSIF?
S3	1179986	BOUNDAR? OR EDGE? OR LIMIT? OR LINE? OR PARTITION? OR BORD- ER? OR DIVIDER?
S4	581909	CENTER? OR CENTRE? OR CENTRAL?
S5	1056891	SIZE? OR MAGNITUDE? OR NUMBER? OR AMOUNT? OR QUANTIT? OR T- OTAL? ? OR COUNT OR COUNTS
S6	21	S1(S)S2(S)S3(S)S4(S)S5
S7	15	S1(5N)S2(5N) (S3 OR S4) (5N)S5
S8	11	(S6 OR S7) AND IC=G06F?
S9	11	IDPAT (sorted in duplicate/non-duplicate order)
S10	11	IDPAT (primary/non-duplicate records only)

File 348:EUROPEAN PATENTS 1978-2002/Sep W03
(c) 2002 European Patent Office

File 349:PCT FULLTEXT 1983-2002/UB=20020912,UT=20020905
(c) 2002 WIPO/Univentio

10/5/1 (Item 1 from file: 348)
DIALOG(R) File 348:EUROPEAN PATENTS
(c) 2002 European Patent Office. All rts. reserv.

01408757

A method for adapting a k-means text clustering to emerging data
Verfahren zum Anpassen einer K-fachen Textpartition an ankommende Daten
Methode pour adapter une partition de texte en K ensembles a des donnees
emergentes

PATENT ASSIGNEE:

International Business Machines Corporation, (200128), New Orchard Road,
Armonk, NY 10504, (US), (Applicant designated States: all)

INVENTOR:

Spangler, William Scott, 12840 Stevens Court, San Martin, CA 95046, (US)

LEGAL REPRESENTATIVE:

Duscher, Reinhard, Dr. (94081), IBM Deutschland GmbH, Intellectual
Property, Pascalstrasse 100, 70548 Stuttgart, (DE)

PATENT (CC, No, Kind, Date): EP 1191463 A2 020327 (Basic)

APPLICATION (CC, No, Date): EP 2001122419 010920;

PRIORITY (CC, No, Date): US 669680 000926

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;
LU; MC; NL; PT; SE; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: G06F-017/30

ABSTRACT EP 1191463 A2

A method and structure for clustering documents in datasets which include clustering first documents and a first dataset to produce first document classes, creating centroid seeds based on the first document classes, and clustering second documents in a second dataset using the centroid seeds, wherein the first dataset and the second dataset are related. The clustering of the first documents in the first dataset forms a first dictionary of most common words in the first dataset and generates a first vector space model by counting, for each word in the first dictionary, a number of the first documents in which the word occurs, and clusters the first documents in the first dataset based on the first vector space model, and further generates a second vector space model by counting, for each word in the first dictionary, a number of the second documents in which the word occurs. Creation of the centroid seeds includes classifying second vector space model using the first document classes to produce a classified second vector space model and determining a mean of vectors in each class in the classified second vector space model, the mean includes the centroid seeds.

ABSTRACT WORD COUNT: 194

NOTE:

Figure number on first page: 1

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 020327 A2 Published application without search report
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200213	1375
SPEC A	(English)	200213	3080
Total word count - document A			4455
Total word count - document B			0
Total word count - documents A + B			4455

10/5/2 (Item 2 from file: 348)
DIALOG(R) File 348:EUROPEAN PATENTS
(c) 2002 European Patent Office. All rts. reserv.

01110765

Medical information processing system for supporting diagnosis
System zur Verarbeitung von medizinischen Daten zur Unterstuetzung der
Diagnose
Systeme de traitement d'informations medicales pour assistance diagnostique

PATENT ASSIGNEE:

KABUSHIKI KAISHA TOSHIBA, (213130), 72, Horikawa-cho, Saiwai-ku,

Kawasaki-shi, Kanagawa-shi 210-8572, (JP), (Applicant designated States: all)

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Yamada, Shinichi, 5-20-14, Midori, Minamikawachi-machi, Kawachi-gun, Tochigi-ken, (JP)
Ema, Takehiro, 2-6-5, Shiroyama, Ootawara-shi, Tochigi-ken, (JP)

LEGAL REPRESENTATIVE:

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PATENT (CC, No, Kind, Date): EP 973116 A1 000119 (Basic)

APPLICATION (CC, No, Date): EP 99119619 940228;

PRIORITY (CC, No, Date): JP 9339996 930301; JP 9348366 930309; JP 9384296 930412; JP 93177859 930719; JP 93178934 930720; JP 93182319 930723

DESIGNATED STATES: DE; NL

RELATED PARENT NUMBER(S) - PN (AN):

EP 616290 (EP 94102996)

INTERNATIONAL PATENT CLASS: G06F-019/00

ABSTRACT EP 973116 A1

A medical information processing system for supporting diagnosis, capable of displaying an original image and a minified image over the original image without being interfered to each other, capable of optimal man-power & time saving configurations and methods, capable of realizing an optimal classifying technique for doctor's interpretation and CAD-processed result, and capable of optimizing efficiency in forming accurate interpretation report by using PACS in a mass survey. The system includes: a detecting unit for detecting location of abnormality from a first medical image in accordance with a predetermined algorithm: an image forming unit for forming a second medical image in which a marker indicating the location of the abnormality is overlapped; and a display unit for displaying the first medical image and the second medical image in an optimally efficient way.

ABSTRACT WORD COUNT: 133

NOTE:

Figure number on first page: 9

LEGAL STATUS (Type, Pub Date, Kind, Text):

Change: 000621 A1 Inventor information changed: 20000502

Application: 20000119 A1 Published application with search report

Examination: 20000119 A1 Date of request for examination: 19991004

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200003	118
SPEC A	(English)	200003	66430
Total word count - document A			66548
Total word count - document B			0
Total word count - documents A + B			66548

10/5/3 (Item 3 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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01065229

A system for interactive organization and browsing of video

System zum interaktiven Organisieren und Überfliegen von Videodaten

Systeme pour l'organisation interactive et la consultation rapide de donnees video

PATENT ASSIGNEE:

SIEMENS CORPORATE RESEARCH, INC., (1621440), 755 College Road East, Princeton, New Jersey 08540, (US), (Applicant designated States: all)

INVENTOR:

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Das, Madirakshi, 1040 North Pleasant Street, Apartment 100, Amherst, MA 61002, (US)

LEGAL REPRESENTATIVE:

Litchfield, Laura Marie et al (85541), Haseltine Lake & Co. Imperial
House 15-19 Kingsway, London WC2B 6UD, (GB)
PATENT (CC, No, Kind, Date): EP 938054 A2 990825 (Basic)
APPLICATION (CC, No, Date): EP 99301308 990223;
PRIORITY (CC, No, Date): US 27637 980223
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;
LU; MC; NL; PT; SE
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: G06F-017/30

ABSTRACT EP 938054 A2

A system for interactively organizing and browsing video automatically processes video, creating a video table of contents (VTOC), while providing easy-to-use interfaces for verification, correction, and augmentation of the automatically extracted video structure. Shot detection, shot grouping and VTOC generation are automatically determined without making restrictive assumptions about the structure or content of the video. A nonstationary time series model of difference metrics is used for shot boundary detection. Color and edge similarities are used for shot grouping. Observations about the structure of a wide class of videos are used for the generating the table of contents. The use of automatic processing in conjunction with input from the user provides a meaningful video organization.

ABSTRACT WORD COUNT: 115

NOTE:

Figure number on first page: 4

LEGAL STATUS (Type, Pub Date, Kind, Text):

Withdrawal: 020410 A2 Date application deemed withdrawn: 20010901
Application: 990825 A2 Published application without search report
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9934	1860
SPEC A	(English)	9934	8617
Total word count - document A			10477
Total word count - document B			0
Total word count - documents A + B			10477

10/5/4 (Item 4 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

(c) 2002 European Patent Office. All rts. reserv.

01021386

Method and apparatus for data clustering

Verfahren und Gerat um Daten in Gruppen einzuteilen

Procede et dispositif pour grouper des donnees

PATENT ASSIGNEE:

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LEGAL REPRESENTATIVE:

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PATENT (CC, No, Kind, Date): EP 913780 A2 990506 (Basic)

APPLICATION (CC, No, Date): EP 98120593 981030;

PRIORITY (CC, No, Date): US 962470 971031

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;
LU; MC; NL; PT; SE

INTERNATIONAL PATENT CLASS: G06F-017/30

ABSTRACT EP 913780 A2

In order to reduce the total number of distance calculations required for clustering, a multidimensional search tree is formed so that each

node other than the root node corresponds to a subspace of a space to which pattern vectors to be clustered belong (101(Fig. 2)). The nodes of the tree is traversed sequentially to execute the following processing for each node (200(Fig. 2)). It is judged, for each prototype of a candidate set of prototypes, whether the prototype is unlikely to be nearest the pattern vector belonging to the subspace (306(Fig. 4)). A prototype unlikely to be nearest, if found, is eliminated from the candidate set, so that the prototypes remaining in the candidate set is used later on, when a nearest prototype to each of the pattern vectors within the subspace is to be found (307(Fig. 4)).

ABSTRACT WORD COUNT: 139

LEGAL STATUS (Type, Pub Date, Kind, Text):

Withdrawal: 020821 A2 Date of withdrawal of application: 20020605

Application: 990506 A2 Published application (Alwith Search Report
;A2without Search Report)

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
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CLAIMS A	(English)	9918	1390
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SPEC A	(English)	9918	8137
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Total word count - document A	9527
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Total word count - document B	0
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Total word count - documents A + B	9527
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10/5/5 (Item 5 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00923920 **Image available**

METHOD AND APPARATUS FOR DATA CLUSTERING

PROCEDE ET APPAREIL DE GROUPEMENT DE DONNEES

Patent Applicant/Assignee:

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Inventor(s):

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Legal Representative:

VALLABH Rajesh (et al) (agent), Hale and Dorr LLP, 60 State Street,
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Patent and Priority Information (Country, Number, Date):

Patent: WO 200257958 A1 20020725 (WO 0257958)

Application: WO 2002US1453 20020117 (PCT/WO US0201453)

Priority Application: US 2001766377 20010119

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU

CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR

KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE

SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-017/30

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 5972

English Abstract

A method and apparatus are provided for clustering data inputs into groups. The first data input is initially designated as center of a first group (12). Each other data input is successively analyzed to identify a group whose center is sufficiently close to that data input (16). If such a group is identified, the input is assigned to the identified group (20). If no such group is identified, a new group is created and the data

input is designated as the center of the new group. The analysis of data inputs is repeated until all data inputs have been assigned to groups. Optionally, thereafter for optimal performance, for each data input, the closest group center to that input is determined, and the data input is assigned to the group having that center.

French Abstract

L'invention concerne un procede et un appareil servant a regrouper des entrees de donnees dans des groupes. La premiere entree de donnees est initialement designee comme centre d'un premier groupe (12). Les entrees de donnees suivantes sont successivement analysees afin d'identifier un groupe dont le centre est suffisamment proche de ladite entree de donnees (16). Si un tel groupe est identifie, l'entree est attribuee audit groupe (20) identifie. Si aucun groupe de ce genre n'est identifie, un nouveau groupe est cree (24) et l'entree de donnees est designee comme centre du nouveau groupe. L'analyse des entrees de donnees est repetee jusqu'a ce que toutes les entrees de donnees soient attribuees a des groupes. Eventuellement, aux fins d'une efficacite optimale, il s'agit de determiner, pour chaque entree de donnees, quel est le centre de groupe le plus proche, puis d'attribuer ladite entree de donnees au groupe dont le centre est le plus proche.

Legal Status (Type, Date, Text)

Publication 20020725 A1 With international search report.

Publication 20020725 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

10/5/6 (Item 6 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00913751

AN EXPERT SYSTEM FOR CLASSIFICATION AND PREDICTION OF GENETIC DISEASES, AND FOR ASSOCIATION OF MOLECULAR GENETIC PARAMETERS WITH CLINICAL PARAMETERS

SYSTEME EXPERT POUR LA CLASSIFICATION ET LA PREDICTION RELATIVES AUX MALADIES GENETIQUES, ET POUR L'ASSOCIATION DE PARAMETRES GENETIQUES MOLECULAIRES A DES PARAMETRES CLINIQUES

Patent Applicant/Assignee:

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Patent Applicant/Inventor:

EILS Roland, Phase IT Intelligent Solutions AG, Theodor-euss- Anlage 2, 68165 Mannheim, DE, DE (Residence), DE (Nationality), (Designated only for: US)

Legal Representative:

VOSSIUS & PARTNER (agent), Siebertstrasse 4, 81675 Munich, DE,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200247007 A2 20020613 (WO 0247007)

Application: WO 2001EP14407 20011207 (PCT/WO EP0114407)

Priority Application: EP 2000126480 20001207

Designated States: AE AG AL AM AT AT (utility model) AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DE (utility model) DK DK (utility model) DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: **G06F-019/00**

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

English Abstract

The present invention is directed to methods, devices and systems for classifying genetic conditions, diseases, tumors etc., and/or for predicting genetic diseases, and/or for associating molecular genetic parameters with clinical parameters and/or for identifying tumors by gene expression profiles etc. The invention specifies such methods, devices and systems with the steps of providing molecular genetic data and/or clinical data, automatically classification, prediction, association and/or identification data by means of a supervising machine learning system. There are further described methods making use of these steps and respective means.

French Abstract

L'invention concerne des procedes, des dispositifs et des systemes permettant de classifier des etats genetiques, des maladies, des tumeurs, etc. et/ou d'etablir des predictions relatives aux maladies genetiques, et/ou d'associer des parametres genetiques moleculaires a des parametres cliniques et/ou d'identifier des tumeurs par le biais de profils d'expression genique, etc. L'invention concerne egalement des procedes, des dispositifs et des systemes reposant sur la sequence d'operations suivantes: presentation de donnees genetiques moleculaires et/ou cliniques, etablisement automatique de donnees de classification, de prediction, d'association et/ou d'identification par le biais d'un systeme d'apprentissage de machine de supervision. L'invention concerne par ailleurs des procedes relatifs a l'utilisation de ces operations, et des moyens correspondants.

Legal Status (Type, Date, Text)

Publication 20020613 A2 Without international search report and to be republished upon receipt of that report.

10/5/7 (Item 7 from file: 349)
DIALOG(R) File 349:PCT FULLTEXT
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00887087 **Image available**

ANOMALY DETECTION SYSTEM AND A METHOD OF TEACHING IT
SYSTEME DE DETECTION D'ANOMALIE ET SON PROCEDE D'APPRENTISSAGE

Patent Applicant/Assignee:

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Patent Applicant/Inventor:

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200221242 A1 20020314 (WO 0221242)

Application: WO 2001FI783 20010910 (PCT/WO FI0100783)

Priority Application: FI 20001997 20000911

Designated States: AE AG AL AM AT AT (utility model) AU AZ BA BB BG BR BY

BZ CA CH CN CO CR CU CZ CZ (utility model) DE DE (utility model) DK DK

(utility model) DM DZ EC EE EE (utility model) ES FI FI (utility model)

GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV

MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SK (utility

model) SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-001/00
International Patent Class: G06F-015/18 ; G06N-003/08
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 3760

English Abstract

A method for teaching an anomaly detecting mechanism in a system comprising observable elements (302), at least one of which has a periodic time-dependent behaviour, the anomaly detecting mechanism comprising a computerized learning mechanism (314). The method comprises assembling indicators (304) indicating the behaviour of the elements (302) and arranging the assembled indicators such that each observable element's indicators are assigned to the same input data component. The learning mechanism (314) is taught so that the input data of the learning mechanism comprises the input data components which are based on the assembled indicators (304). Points which approximate the input data are placed in the input space. A presentation of time (420 - 424) is incorporated into at least one input data component wherein the presentation of time is periodic, continuous and unambiguous within the period of the at least one element with periodic time-dependent behaviour.

French Abstract

La presente invention concerne un procede permettant l'apprentissage d'un mecanisme de detection d'anomalie dans un systeme comprenant des elements observables (302), dont au moins l'un a un comportement periodique dependant du temps, le mecanisme de detection d'anomalie comprenant un mecanisme d'apprentissage informatise (314). Le procede comprend l'assemblage d'indicateurs (304) indiquant le comportement des elements (302) et la disposition des indicateurs assembles de sorte que les indicateurs de chaque element observable sont associes au meme element de donnees d'entree. L'apprentissage du mecanisme d'apprentissage (314) se fait de sorte que les donnees d'entree du mecanisme d'apprentissage comprennent les elements de donnees d'entree qui se basent sur les indicateurs assembles (304). Des points qui correspondent approximativement aux donnees d'entree sont places dans l'espace d'entree. Une presentation de temps (420 - 424) est incorporee a au moins un element de donnees d'entree, la presentation de temps etant periodique, continue et non ambigue a l'interieur de l'intervalle de temps des elements ayant un comportement periodique dependant du temps.

Legal Status (Type, Date, Text)

Publication 20020314 A1 With international search report.

Examination 20020620 Request for preliminary examination prior to end of 19th month from priority date

10/5/8 (Item 8 from file: 349)
DIALOG(R) File 349:PCT FULLTEXT
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00796920 **Image available**

METHODS OF GENETIC CLUSTER ANALYSIS

METHODES RELATIVES A UNE ANALYSE TYPOLOGIQUE GENETIQUE ET UTILISATION DE CELLE-CI

Patent Applicant/Assignee:

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Patent Applicant/Inventor:

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SKIERCZYNSKI Boguslaw, 4775 Calligraphy Court, Oceanside, CA 92057, US, US (Residence), US (Nationality), (Designated only for: US)

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200129257 A2-A3 20010426 (WO 0129257)

Application: WO 2000IB1632 20001020 (PCT/WO IB0001632)

Priority Application: US 99161231 19991022; US 2000216897 20000707

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ

DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ

LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG

SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-019/00

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 16524

English Abstract

The present invention is primarily directed to methods of genetic cluster analysis for use in determining the homogeneity and/or heterogeneity of a population or sub-population. Determination of the heterogeneity or homogeneity of a population sample is important in many areas including DNA fingerprinting in forensics and population-based studies such as clinical trials, case-control studies of risk factors, and gene mapping studies.

French Abstract

Cette invention a essentiellement trait a des methodes relatives a une analyse typologique genetique a utiliser pour determiner l'homogeneite et/ou l'heterogeneite d'une population ou d'une sous-population. La determination de l'homogeneite ou de l'heterogeneite d'un echantillon de population est importante dans de nombreux domaines, dont celui des empreintes genetiques a des fins judiciaires ainsi que celui d'etudes reposant sur la population, notamment des essais cliniques, des etudes cas-temoin de facteurs de risque et des etudes de cartographie genetique.

Legal Status (Type, Date, Text)

Publication 20010426 A2 Without international search report and to be
republished upon receipt of that report.

Examination 20010525 Request for preliminary examination prior to end of
19th month from priority date

Search Rpt 20020711 Late publication of international search report

Republication 20020711 A3 With international search report.

10/5/9 (Item 9 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00516666 **Image available**

A SCALABLE SYSTEM FOR CLUSTERING OF LARGE DATABASES

**SYSTEME A GEOMETRIE VARIABLE PERMETTANT DE GROUPE DE GRANDES BASES DE
DONNEES**

Patent Applicant/Assignee:

MICROSOFT CORPORATION,

Inventor(s):

FAYYAD Usama,

BRADLEY Paul S,

REINA Cory,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9948018 A1 19990923

Application: WO 99US5759 19990316 (PCT/WO US9905759)

Priority Application: US 9840219 19980317
Designated States: JP AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Main International Patent Class: **G06F-015/18**
Publication Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 15382

English Abstract

In a data mining system (12), clusters are used to categorize data within each model. An initial set of estimates of the parameters of each model and each cluster are provided. A portion of the data in the database (10) is read from a storage medium and brought into a rapid access memory buffer (22). Data contained in the data buffer (22) is used to update the original guesses at the parameters of the model in each cluster over all models. Some of the data belonging to a cluster is summarized or compressed and stored as a reduced form of the data representing sufficient statistics of the data. If further data is needed to categorize the cluster, more data is gathered from the database (10) and used in combination with compressed data until a stopping criteria (140) is met.

French Abstract

Dans un systeme d'exploitation de donnees (12), on utilise des groupes pour classer les donnees dans chaque modele. On prevoit un ensemble initial d'estimations des parametres pour chaque modele et chaque groupe. Une partie des donnees dans la base de donnees (10) est lue a partir d'un support de memorisation et envoyee dans une memoire tampon (22) rapide d'accès. Les donnees contenues dans la memoire tampon (22) sont utilisees pour mettre a jour les estimations initiales au niveau des parametres du modele dans chaque groupe tout au long des modeles. Certaines donnees appartenant a un groupe sont resumees ou comprimees et enregistrees sous forme reduite, ces donnees representant des statistiques suffisantes des donnees. Si d'autres donnees sont necessaires pour classer le groupe, davantage de donnees sont recueillies a partir de la base de donnees (10) et utilisees en combinaison avec les donnees comprimees jusqu'a ce qu'on puisse repondre aux criteres d'arret (140).

10/5/10 (Item 10 from file: 349)
DIALOG(R) File 349:PCT FULLTEXT
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00504244 **Image available**

FAST IMAGE RETRIEVAL USING MULTI-SCALE EDGE REPRESENTATION OF IMAGES
REPERAGE RAPIDE D'IMAGES PAR REPRESENTATION A ECHELLES MULTIPLES DES
CONTOURS D'UNE IMAGE

Patent Applicant/Assignee:

KONINKLIJKE PHILIPS ELECTRONICS N V,
PHILIPS AB,

Inventor(s):

DESAI Ranjit,
ABDEL-MOTTALEB Mohamed,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9935596 A1 19990715

Application: WO 98IB1816 19981113 (PCT/WO IB9801816)

Priority Application: US 972097 19971231

Designated States: JP AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Main International Patent Class: **G06F-017/30**

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 3963

English Abstract

An image retrieval system for retrieving images from a data base in

dependence upon the degree of correspondence with a user input target image. The target image and each image in the data base are characterized by a vector of edge characteristics within each image. Retrieval is effected by a comparison of the characteristic vectors, rather than a comparison of the images themselves. To optimize performance, a set of characteristic vectors, at different levels of abstraction of the image, are associated with each data base image; images which are similar to the target image, at any level of abstraction, are retrieved. To further optimize the speed of search, the data base is partitioned into clusters, and the search is limited to the cluster most similar to the target image.

French Abstract

Systeme de repereage d'images qui permet de reperer des images dans une base de donnees en fonction de leur degre de correspondance avec une image cible entree par un utilisateur. L'image cible et chaque image contenue dans la base de donnees sont caracterisees par un vecteur de caracteristiques des contours a l'interieur de chaque image. La recherche s'effectue par comparaison des vecteurs de caracteristiques plutot que par comparaison des images elles-memes. Afin d'optimiser les performances, un ensemble de vecteurs de caracteristiques, a differents niveaux d'abstraction de l'image, sont associes a chaque image de la base de donnees et les images qui sont similaires a l'image cible, a n'importe quel niveau d'abstraction, sont reperees. Afin d'optimiser encore davantage la vitesse de la recherche, la base de donnees est subdivisee en grappes et la recherche est limitee a la grappe qui ressemble le plus a l'image cible.

10/5/11 (Item 11 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00192027

INTEGRATED VEHICLE POSITIONING AND NAVIGATION SYSTEM, APPARATUS AND METHOD SYSTEME, APPAREIL ET PROCEDE INTEGRES DE CALCUL DE POSITION ET DE NAVIGATION POUR VEHICULES

Patent Applicant/Assignee:

CATERPILLAR INC,
GUDAT Adam J,
BRADBURY Walter J,
CHRISTENSEN Dana A,
CLOW Richard G,
DEVIER Lonnie J,
KEMNER Carl A,
KLEIMENHAGEN Karl W,
KOEHRSEN Craig L,
KYRTSOS Christos T,
LAY Norman K,
PETERSON Joel L,
RAO PRITHVI N,
SCHMIDT Larry E,
SENNOTT James W,
SHAFFER Gary K,
SHI WenFan,
SHIN Dong Hun,
SINGH Sanjiv J,
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Patent and Priority Information (Country, Number, Date):

Patent: WO 9109375 A1 19910627
Application: WO 89US5580 19891211 (PCT/WO US8905580)
Priority Application: WO 89US5580 19891211

Designated States: AT AU BE BR CH CH DE DE DK ES ES FI FR GB GB IT JP KR LU
NL NL NO RO SE SE SU US

Main International Patent Class: **G06F-015/50**

International Patent Class: B62D-01:00

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 50638

English Abstract

A system (400) for positioning and navigating an autonomous vehicle (310) allows the vehicle (310) to travel between locations. Position information (432) is derived from global positioning system satellites (200, 202, 204, and 206) or other sources (624) when the satellites (200, 202, 204, and 206) are not in the view of the vehicle (310). Navigation of the vehicle (310) is obtained using the position information (432), route information (414), obstacle detection and avoidance data (416), and on board vehicle data (908 and 910).

French Abstract

Un systeme (400) de calcul de position et de navigation pour vehicules autonomes (310) permet a ce dernier (310) de se deplacer entre des points. Les informations de position (432) sont derivees de satellites (200, 202, 204 et 206) d'un systeme global de calcul de position, ou a partir d'autres sources (124) lorsque les satellites (200, 202, 204 et 206) ne sont pas en vue du vehicule (310). Le vehicule (310) peut naviguer a l'aide des informations de position (432), d'informations de route (414), de donnees de detection et de contournement d'obstacles (416), et a l'aide des donnees a bord (908 et 910) du vehicule.

Set	Items	Description
S1	2	KMEAN? OR KMEDIAN? OR KPROTOTYP? OR K() (MEAN? ? OR MEDIAN? OR PROTOTYP?)
S2	21702	CLUSTER? OR DATACLUSTER? OR GROUP? OR ORGANIZ? OR ORGANIS? OR ARRANGE? OR CLASSIF?
S3	16081	BOUNDAR? OR EDGE? OR LIMIT? OR LINE? OR PARTITION? OR BORD- ER? OR DIVIDER?
S4	9722	CENTER? OR CENTRE? OR CENTRAL?
S5	16440	SIZE? OR MAGNITUDE? OR NUMBER? OR AMOUNT? OR QUANTIT? OR T- OTAL? ? OR COUNT OR COUNTS
S6	2	S1 NOT PY>2000
S7	2	S6 NOT PD>20001004
S8	2	S7 AND (S2 OR S3 OR S4 OR S5)

File 256:SoftBase:Reviews,Companies&Prods. 82-2002/Aug
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8/3,K/1

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.
(c)2002 Info.Sources Inc. All rts. reserv.

00121171 DOCUMENT TYPE: Review

PRODUCT NAMES: KnowledgeSTUDIO 2.0 (704555)

TITLE: Angoss touts flexible framework

AUTHOR: MacMillan, Michael

SOURCE: Computerworld Canada, v15 n21 p36(2) Oct 22, 1999

ISSN: 1484-9089

HOME PAGE: <http://www.lti.on.ca>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

REVISION DATE: 20000830

...comes with five decision tree algorithms, three neural net algorithms, and one 'unsupervised' learning and **clustering** algorithm. The client or standalone workstation runs on Windows 9x or NT, and the data...

...IV, ODBC, SAS, and SPSS. The data mining algorithms that are supported include CHAID, SAID, **K - Means** and Entropy decision tree algorithms, as well as multilayered perception, radial basis formation, and probabilistic ...

8/3,K/2

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.
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00110848 DOCUMENT TYPE: Review

PRODUCT NAMES: GIS (830278)

TITLE: Identify Data Patterns

AUTHOR: Berry, Joseph K

SOURCE: GIS World, v11 n8 p26(2) Aug 1998

ISSN: 0897-5507

HOME PAGE: <http://www.gisworld.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

REVISION DATE: 19990830

...statistics, understanding data analysis, and finding spatial patterns. Scatter plots of multiple data sets create **clusters** of similar measurements. Spatial statistics extends analysis to geographic environments. For example, if coordinates accompany...
...team chooses another area of the environment. Further analysis can show a spatial association between **group** positioning and the nearness of the teacher to each **group**. When conventional statistics are linked to spatial analysis abilities, including proximity measurement, new knowledge can...

...system (GIS) users do not know data mining and knowledge procedures. To find spatial patterns, **k - means clustering** can be used to discretionally establish two **cluster centers** in a data space used as an example (the football players and the cheerleaders).

Set	Items	Description
S1	953	AU=(ZHANG B? OR ZHANG, B? OR HSU M? OR HSU, M? OR KLEYNER, I? OR KLEYNER I?)
S2	1	S1 AND IC=G06F-007?
S3	29	S1 AND IC=G06F?
S4	29	IDPAT (sorted in duplicate/non-duplicate order)
S5	23	IDPAT (primary/non-duplicate records only)

File 347:JAPIO Oct 1976-2002/May(Updated 020903)
(c) 2002 JPO & JAPIO

File 348:EUROPEAN PATENTS 1978-2002/Sep W02
(c) 2002 European Patent Office

File 349:PCT FULLTEXT 1983-2002/UB=20020912,UT=20020905
(c) 2002 WIPO/Univentio

File 350:Derwent WPIX 1963-2002/UD,UM &UP=200260
(c) 2002 Thomson Derwent

5/5/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

014697854 **Image available**

WPI Acc No: 2002-518558/200255

XRPX Acc No: N02-410444

Distributed computing system has two dynamic software agents executed on different computers, which have action, message agenda, open server, and resource handlers along with network address and unique symbolic name

Patent Assignee: CHEN Q (CHEN-I); CHUNDI P (CHUN-I); DAYAL U (DAYA-I); HSU M (HSUM-I)

Inventor: CHEN Q; CHUNDI P; DAYAL U; HSU M

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020062334	A1	20020523	US 98136768	A	19980819	200255 B

Priority Applications (No Type Date): US 98136768 A 19980819

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 20020062334	A1	74	G06F-015/16	

Abstract (Basic): US 20020062334 A1

NOVELTY - Two cloned dynamic software agents executed on different computers, have respective action, message, agenda, open server and resource handlers, along with a network address and a symbolic name which uniquely identify the agents. One agent is a clone of the other agent.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

- (1) Computer-implemented dynamic service provision method;
- (2) Computer-readable medium storing dynamic service provision program; and
- (3) Computer data signals.

USE - Distributed computing system.

ADVANTAGE - Enables effectively developing autonomous software agents with modifiable behaviors. Simplifies deployment of application-specific cooperative multiagent systems.

DESCRIPTION OF DRAWING(S) - The figure shows the distributed computing system.

pp: 74 DwgNo 1/13

Title Terms: DISTRIBUTE; COMPUTATION; SYSTEM; TWO; DYNAMIC; SOFTWARE; AGENT ; EXECUTE; COMPUTER; ACTION; MESSAGE; OPEN; SERVE; RESOURCE; HANDLE; NETWORK; ADDRESS; UNIQUE; SYMBOL; NAME

Derwent Class: T01

International Patent Class (Main): G06F-015/16

File Segment: EPI

5/5/2 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014643048 **Image available**

WPI Acc No: 2002-463752/200249

XRPX Acc No: N02-365587

Method for perceiving and visualising emotion contained in text used in messages in computer communications, comprises code representing an emotional status allocated to each sample sentence where priori probability is calculated

Patent Assignee: DIGITAL AGENT INC (DIGI-N); HAN K (HANK-I); MOON H (MOON-I); ZHANG B (ZHAN-I)

Inventor: HAN K; MOON H; ZHANG B

Number of Countries: 096 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200244991	A1	20020606	WO 2001KR2048	A	20011127	200249 B

Priority Applications (No Type Date): KR 200072063 A 20001130

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200244991 A1 E 35 G06F-019/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA
CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN
IS JP KE KG KP KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

Abstract (Basic): WO 200244991 A1

NOVELTY - A method for perceiving and visualizing emotion contained in a text is provided. A code representing an emotional status is allocated to each sample sentence. A priori probability of occurrence of sentences representing each emotional status is calculated. A code representing an emotional status is allocated to each word contained in the sentences. The probability of occurrence of the word in sentences representing the corresponding emotional status is calculated.

DETAILED DESCRIPTION - The probability of each emotional status of an object sentence is then calculated by multiplying the a priori probability of status i with the probability of occurrence in status i of each word in the sentence, so that the emotional status yielding the highest probability is determined to represent the emotional status of the sentence. Expressions or punctuation marks capable as such of expressing emotions are processed separately in order to enhance the efficiency of the processing.

USE - Method for perceiving and visualising emotion contained in a text.

ADVANTAGE - Enables effective transmission of emotions in dialogues via communication using a chatting or messenger program. The method can rapidly and accurately analyze and visualize the emotional status of a text.

DESCRIPTION OF DRAWING(S) - The drawing shows a flowchart showing a general process of emotions perception in accordance with the present invention.

pp; 35 DwgNo 2/5

Title Terms: METHOD; VISUAL; EMOTIONAL; CONTAIN; TEXT; MESSAGE; COMPUTER;

COMMUNICATE; COMPRISE; CODE; REPRESENT; EMOTIONAL; STATUS; ALLOCATE;

SAMPLE; SENTENCE; PROBABILITY; CALCULATE

Derwent Class: T01

International Patent Class (Main): G06F-019/00

File Segment: EPI

5/5/3 (Item 3 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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014632479 **Image available**

WPI Acc No: 2002-453183/200248

XRPX Acc No: N02-357312

Navigating method for nodes within large web-based hierarchical hyperbolic space with multiple paths, involves selectively revealing secondary paths among currently displayed nodes

Patent Assignee: HEWLETT-PACKARD CO (HEWP)

Inventor: DAYAL U; HAO M C; HSU M ; KRUG A

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6377287	B1	20020423	US 99294542	A	19990419	200248 B

Priority Applications (No Type Date): US 99294542 A 19990419

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

US 6377287 B1 14 G06F-003/14

Abstract (Basic): US 63772 B1

NOVELTY - Secondary paths (60) among currently displayed nodes (20) are selectively revealed based on the identification of a multi-path node during the navigation of the displayed nodes. The secondary paths which extend from the identified multi-path nodes are also revealed.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) a navigation enabling method;
- (b) a node navigating system.

USE - For navigating nodes within large web-based hierarchical hyperbolic space with multiple paths in organizational charts or Internet resources.

ADVANTAGE - Allows navigation of nodes while maintaining simplicity of nodes organized along parent and child relationships.

DESCRIPTION OF DRAWING(S) - The figure shows the graph of hyperbolic tree.

Nodes (20)

Secondary paths (60)

pp; 14 DwgNo 3/11

Title Terms: NAVIGATION; METHOD; NODE; WEB; BASED; HIERARCHY; HYPERBOLIC; SPACE; MULTIPLE; PATH; SELECT; REVEAL; SECONDARY; PATH; CURRENT; DISPLAY; NODE

Derwent Class: T01

International Patent Class (Main): G06F-003/14

File Segment: EPI

5/5/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014552036

WPI Acc No: 2002-372739/200241

XRPX Acc No: N02-291265

Chinese phonetic entry method

Patent Assignee: ZHANG B (ZHAN-I)

Inventor: ZHANG B

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CN 1180859	A	19980506	CN 96118778	A	19961018	200241 B

Priority Applications (No Type Date): CN 96118778 A 19961018

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
CN 1180859	A		G06F-003/023	

Abstract (Basic): CN 1180859 A

NOVELTY - A Chinese-character speech typing method using pronunciation as units and phonetic letters features that each phonetic keystroke on used typing keyboard is related to two keys, the first press represents the first or the second keys of initial consonant and the second press represents the first the second keys of vowel, so their combination can represent 4 tones. Two keystrokes can complete speech typing. Its advantages are high typing speed and convenient operation.

DwgNo 0/0

Title Terms: CHINESE; PHONETIC; ENTER; METHOD

Derwent Class: T01; T04

International Patent Class (Main): G06F-003/023

File Segment: EPI

5/5/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014495396 **Image available**

WPI Acc No: 2002-316099/200236
XRPX Acc No: N02-247341

Tree structure constructing system for supply chain management, includes subprocess for formatting retrieved data in defined tree structure

Patent Assignee: ZHANG B (ZHAN-I)

Inventor: **ZHANG B**

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CA 2312597	A1	20020105	CA 2312597	A	20000705	200236 B

Priority Applications (No Type Date): CA 2312597 A 20000705

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
CA 2312597	A1	E	13	G06F-017/30	

Abstract (Basic): CA 2312597 A1

NOVELTY - A document type definition (DTD) document with tree structure is defined. The document type definition consists of retrieved data and a subprocess for formatting the retrieved data in the defined tree structure and generate a document in hypertext markup language format.

USE - For use in business systems like dynamic content management, supply chain management, electronic data interchange, e-commerce web sites, database publishing, database middleware and query utility programs. Also for data integration, data conversion and data interchange.

ADVANTAGE - Construction of output data in tree structure in XML format eliminates data redundancy and is more readable. Transformation of retrieved data to other formats or databases is done without losing their structure and relationships.

DESCRIPTION OF DRAWING(S) - The figure shows the sample of tree structure of a complex query and the properties for one of the nodes.
pp; 13 DwgNo 1/3

Title Terms: TREE; STRUCTURE; CONSTRUCTION; SYSTEM; SUPPLY; CHAIN; MANAGEMENT; FORMAT; RETRIEVAL; DATA; DEFINE; TREE; STRUCTURE

Derwent Class: T01

International Patent Class (Main): **G06F-017/30**

International Patent Class (Additional): **G06F-017/21**

File Segment: EPI

5/5/6 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014437547

WPI Acc No: 2002-258250/200231

XRPX Acc No: N02-200135

Method for creating electronic wholesale market

Patent Assignee: ZHANG B (ZHAN-I)

Inventor: **ZHANG B**

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CN 1328301	A	20011226	CN 2000111183	A	20000610	200231 B

Priority Applications (No Type Date): CN 2000111183 A 20000610

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
CN 1328301	A			G06F-017/60	

Abstract (Basic): CN 1328301 A

NOVELTY - A method for creating an electronic wholesale market based on Internet includes creating a central database, which can communicated to the electronic bank and several wholesale market over INTERNET/INTERNET network. The domain name and IP address of said central database is public to whole society and can provide WWW service

with relative page and Form. Said electronic bank and wholesale market are equipped with broadband data link and high-speed routing switch. Its advantages are high efficiency and low cost.

DwgNo 0/0

Title Terms: METHOD; ELECTRONIC; MARKET
Derwent Class: T01
International Patent Class (Main): G06F-017/60
File Segment: EPI

5/5/7 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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013891008

WPI Acc No: 2001-375221/200140

XRPX Acc No: N01-274604

Chinese voice coding method and keyboard and electronic talking device

Patent Assignee: ZHANG B (ZHAN-I)

Inventor: ZHANG B

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CN 1156274	A	19970806	CN 95113781	A	19951115	200140 B

Priority Applications (No Type Date): CN 95113781 A 19951115

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
CN 1156274	A			G06F-003/023	

Abstract (Basic): CN 1156274 A

NOVELTY - The device uses the pronunciation of Chinese character as unit to input and fetch. In accordance with the scheme for the Chinese Phonetic Alphabet, the Chinese character is inputted by three keys, and this method is used in the electronic talker, and the dialogue is directly proceeded by the Chinese Phonetic Alphabet.

USE - To input and fetch Chinese characters

ADVANTAGE - Amount of keying for input is decreased, there is no superimposed coding, the searching is quick, the construction of the keyboard is simple, words expression is quick and the operation is convenient.

DwgNo 0/0

Title Terms: CHINESE; VOICE; CODE; METHOD; KEYBOARD; ELECTRONIC; TALK; DEVICE

Derwent Class: T01; T04; U21; W04

International Patent Class (Main): G06F-003/023

International Patent Class (Additional): G06F-017/00

File Segment: EPI

5/5/8 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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013719069

WPI Acc No: 2001-203299/200121

XRAM Acc No: C01-060474

XRPX Acc No: N01-145141

Equipment and process for layer manufacture

Patent Assignee: ZHONG W (ZHON-I)

Inventor: HUANG W; ZHANG B ; ZHONG W

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CN 1270883	A	20001025	CN 99111576	A	19990818	200121 B

Priority Applications (No Type Date): CN 99111576 A 19990818

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
CN 1270883 A B29C-041/02

Abstract (Basic): CN 1270883 A

NOVELTY - A new layering manufacture process includes following steps: operate material forming subsystem to spray selected liquid component and solid component in preset ratio; use the object supporting platform near the material forming subsystem to accept deposited material; form the first layer of the formed material through relative motion of forming subsystem to the object supporting platform in X-Y plane and Z-direction during deposition; and repeat the above steps to form three-dimensional object. The steps are controlled by means of a computer. The system can produce color object and supply support structure for un-supported object part. The present invention has high efficiency and high precision.

DwgNo 0/0

Title Terms: EQUIPMENT; PROCESS; LAYER; MANUFACTURE

Derwent Class: A32; T01; X25

International Patent Class (Main): B29C-041/02

International Patent Class (Additional): B29C-067/00; G06F-017/40

File Segment: CPI; EPI

5/5/9 (Item 9 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013483109 **Image available**

WPI Acc No: 2000-655052/200063

XRPX Acc No: N00-485469

Information storing and updating method for describing data traffic on network, involves updating each record in table for which all portions of its identifier matches all portions of known data value

Patent Assignee: SHOMITI SYSTEMS INC (SHOM-N)

Inventor: CUPPETT J W; HSU M A ; LEONG R C

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6098157	A	20000801	US 9866803	A	19980424	200063 B

Priority Applications (No Type Date): US 9866803 A 19980424

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

US 6098157 A 14 G06F-012/00

Abstract (Basic): US 6098157 A

NOVELTY - The read portion of identifiers of different records of table are interleaved. The interleaved read portions of identifiers of records of table are compared with corresponding portion of known data value. Only if they match with each other, next read portion of identifiers of different records of table are interleaved and compared with corresponding next portion of known data value to update each record.

USE - For storing and updating statistical information in table describing data traffic on computer network e.g. LAN.

ADVANTAGE - Stores and updates information in table fastly and simply by reducing number of future reads necessary for locating indexed addresses and updating the table entries.

DESCRIPTION OF DRAWING(S) - The figure shows flow diagram of storing and updating method of statistical information in table.

pp; 14 DwgNo 8/8

Title Terms: INFORMATION; STORAGE; UPDATE; METHOD; DESCRIBE; DATA; TRAFFIC; NETWORK; UPDATE; RECORD; TABLE; PORTION; IDENTIFY; MATCH; PORTION; DATA; VALUE

Derwent Class: T01; W01

International Patent Class (Main): G06F-012/00

International Patent Class (Additional): G06F-007/00

File Segment: EPI

5/5/10 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013259534 **Image available**
WPI Acc No: 2000-431417/200037
XRPX Acc No: N00-321965

Data record correlating method for organizing information in Internet
involves presenting processed data records in graphical fashion relative
to time axis, to create expanded display related by connections lines
Patent Assignee: TECHNOLOGY ENABLING CO LLC (TECH-N)
Inventor: CHIU L K; HADZIMA J G; HARRISS T D; LEUNG C; MORTEL A; SPRAGUE J;
TOONG H; ZHANG B

Number of Countries: 090 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200034896	A1	20000615	WO 99US28657	A	19991206	200037 B
AU 200031092	A	20000626	AU 200031092	A	19991206	200045
EP 1129417	A1	20010905	EP 99965107	A	19991206	200151
			WO 99US28657	A	19991206	

Priority Applications (No Type Date): US 98111112 P 19981204; US 98111111 P 19981204

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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WO 200034896	A1	E	31	G06F-017/30	
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Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN
CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE
SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 200031092	A			G06F-017/30	Based on patent WO 200034896
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EP 1129417	A1	E		G06F-017/30	patent WO 200034896
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Based on patent WO 200034896

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI
LU MC NL PT SE

Abstract (Basic): WO 200034896 A1

NOVELTY - Data records are processed and combined in a graphical fashion relative to time axis, in order to create an expanded display set depicting relationship indicated by connections lines. The time axis is scalable throughout the entire time range and independently scalable across and within multiple subtime ranges. The various search parameters are thus represented by employing colors, shapes or patterns

DETAILED DESCRIPTION - The input parameters which are descriptive of the fields in a data record are defined and the databases of the data record are searched. The captured databases to create the working set is augmented. Combined and processed data records which are presented in a graphical fashion relative to time axis creates an expanded display set indicated by connections. The connectors are lines calculated and placed to minimize amount of crossing and length which connect data records. The shape is so as to minimize overlapping and total space required.

USE - For organizing information in Internet

ADVANTAGE - The graphical depiction is presented as two dimensional image and is capable of being developed to n dimensional images. The topic of interest of the user is identified within the targeted databases.

DESCRIPTION OF DRAWING(S) - The figure shows functional block diagram of data organizing system.

pp; 31 DwgNo 1/4

Title Terms: DATA; RECORD; CORRELATE; METHOD; INFORMATION; PRESENT; PROCESS
; DATA; RECORD; GRAPHICAL; FASHION; RELATIVE; TIME; AXIS; EXPAND; DISPLAY
; RELATED; CONNECT; LINE

Derwent Class: T01

International Patent Class (Main): G06F-017/30
File Segment: EPI

5/5/11 (Item 11 from file: 350)
DIALOG(R) File 350: Derwent WPIX
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012891489

WPI Acc No: 2000-063324/200006

XRPX Acc No: N00-049576

Keyboard with multidirectional and multiple-contact signal input keys

Patent Assignee: ZHANG B (ZHAN-I)

Inventor: ZHANG B

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CN 1230713	A	19991006	CN 98107158	A	19980327	200006 B

Priority Applications (No Type Date): CN 98107158 A 19980327

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
CN 1230713	A	1	G06F-003/023	

Abstract (Basic): CN 1230713 A

NOVELTY - The present invention and opens a new thinking of utilizing multidirectional motion of fingers to operate the 'keyboard with multidirectional and multiple contact keys'. USE - For use as a computer keyboard, suitable for the blind.

ADVANTAGE - The fingers complete the typing in computer without leaving the keys. Compared with available operation methods is more accurate and faster.

Dwg.0

Title Terms: KEYBOARD; MULTIDIRECTIONAL; MULTIPLE; CONTACT; SIGNAL; INPUT; KEY

Derwent Class: S05; T01; T04

International Patent Class (Main): G06F-003/023

File Segment: EPI

5/5/12 (Item 12 from file: 350)
DIALOG(R) File 350: Derwent WPIX
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012289091 **Image available**

WPI Acc No: 1999-095197/199908

XRPX Acc No: N99-069260

Barcode scanner system for PC - includes connector for selectively connecting input port of CPU with interface unit of scanner that has transmission gates for selective coupling of datalines as well as clocklines between scanner keyboard

Patent Assignee: OPTICON INC (OPTI-N)

Inventor: CRISCITO H V; ZHANG B ; ZHENG X

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5854945	A	19981229	US 97781345	A	19970121	199908 B

Priority Applications (No Type Date): US 97781345 A 19970121

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5854945	A	13	G06F-013/00	

Abstract (Basic): US 5854945 A

The system includes a Y-shaped cable (65) with one end connected to a scanner input-output port (12) through a connector (65a) another end connected to input-output port (24) of CPU of computer through connector (65c). Powerline (71c) from computer is connected to power

line (71a) of scanner and power line (71b) of keyboard. clockline (73c) from computer is connected to clock line (73a) of scanner and data line (74a) from computer input-output port is interconnected to clockline (74a) of scanner from transmitting data inbetween.

The scanner has a main scanner section (46) comprising key board detect logic section (62) to detect presence of any external keyboard signals. An interface circuit (25a) of the scanner comprises transmission gates (TG1,TG2) for selectively coupling clock line, keyboard data line of scanner to CPU of computer.

USE - For desktop or laptop computer.

ADVANTAGE - Increases decoded data transmission reliably. Offers bidirectional data transfer between CPU and scanner. Prevents loss of data.

Dwg.6/6

Title Terms: SCAN; SYSTEM; CONNECT; SELECT; CONNECT; INPUT; PORT; CPU; INTERFACE; UNIT; SCAN; TRANSMISSION; GATE; SELECT; COUPLE; WELL; SCAN; KEYBOARD

Derwent Class: T01

International Patent Class (Main): G06F-013/00

File Segment: EPI

5/5/13 (Item 13 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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011778173 **Image available**

WPI Acc No: 1998-195083/199818

XRPX Acc No: N98-154463

Computer chip heat sink - has screening plate provided by diamond mesh formed from heat conductive metal wires of rectangular cross-section.

Patent Assignee: HSU M H (HSUM-I); HUA H M (HUAH-I)

Inventor: HSU M H ; HUA H M

Number of Countries: 003 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 29801205	U1	19980326	DE 98U2001205	U	19980126	199818 B
FR 2773940	A3	19990723	FR 98642	A	19980122	199936
DE 19802854	C1	19990916	DE 1002854	A	19980126	199942 N
US 5960863	A	19991005	US 984029	A	19980107	199948 N

Priority Applications (No Type Date): DE 98U2001205 U 19980126; DE 1002854 A 19980126; US 984029 A 19980107

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 29801205	U1		17	H01L-023/34	
FR 2773940	A3			H05K-007/20	
DE 19802854	C1			H01L-023/367	
US 5960863	A			F28F-003/02	

Abstract (Basic): DE 29801205 U

The heat sink is provided by a metal mesh made of a metal with good heat conduction characteristics. The parallel undulating mesh wires (11) are coupled together at their points of contact, to provide a diamond mesh screening plate (1). The mesh wires can be formed from a rectangular cross-section metal band, with a number of overlapping screening plates secured to a base plate (3) of a heat conductive material via corner fixing posts (31).

USE - For heat dissipation from central processing unit or IC.

ADVANTAGE - Use of metal mesh provides lightweight heat sink with large surface area for effective heat dissipation.

Dwg.4/8

Title Terms: COMPUTER; CHIP; HEAT; SINK; SCREEN; PLATE; DIAMOND; MESH; FORMING; HEAT; CONDUCTING; METAL; WIRE; RECTANGLE; CROSS; SECTION

Derwent Class: Q78; T01; U11; U13; V04

International Patent Class (Main): F28F-003/02; H01L-023/34; H01L-023/367; H05K-007/20

International Patent Class (Additional): F28D-009/04; F28F-003/06;

F28F-021/08; G06F-001,00 ; H01L-023/467
File Segment: EPI; EngPI

5/5/14 (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011373778

WPI Acc No: 1997-351685/199733

XRPX Acc No: N97-291411

Method for inputting Chinese by sound code computer keyboard

Patent Assignee: ZHANG B (ZHAN-I)

Inventor: ZHANG B

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CN 1108400	A	19950913	CN 94102202	A	19940309	199733 B

Priority Applications (No Type Date): CN 94102202 A 19940309

Abstract (Basic): CN 1108400 A

The Chinese character input method is based on the pronunciation of the Chinese character and is named pronunciation code method; the 26 letter keys on computer keyboard are assigned to corresponding 52 notes, the pronunciation of Chinese character can be input from 'two strikes of key', besides, four tone keys are added, the present method uses 'two strikes of key add one tone' to display the characters with same pronunciation, and then selects a required one.

Dwg.0/1

Title Terms: METHOD; INPUT; CHINESE; SOUND; CODE; COMPUTER; KEYBOARD

Derwent Class: T01; T04

International Patent Class (Main): G06F-003/023

File Segment: EPI

5/5/15 (Item 15 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011267867 **Image available**

WPI Acc No: 1997-245770/199723

XRPX Acc No: N97-202641

Two-key, phonetic and four-tone Chinese character input method for computer keyboard

Patent Assignee: ZHANG B (ZHAN-I)

Inventor: ZHANG B

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CN 1100214	A	19950315	CN 93118954	A	19930907	199723 B

Priority Applications (No Type Date): CN 93118954 A 19930907

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
CN 1100214	A		G06F-003/023	

Abstract (Basic): CN 1100214 A

The Chinese-character four-tone typing method is based on pronunciation and one Chinese character is represented by two keys, one for vowel and another for consonant. The characters with same vowel, same consonant and same tone are displayed on screen to shorten search time. It features easy learning and fast operation.

Dwg.1

Title Terms: TWO; KEY; PHONETIC; FOUR; TONE; CHINESE; CHARACTER; INPUT; METHOD; COMPUTER; KEYBOARD

Derwent Class: T01; T04; U21

International Patent Class (Main): G06F-003/023

5/5/16 (Item 16 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011249312

WPI Acc No: 1997-227215/199721

XRPX Acc No: N97-187800

Profile phonetic compound code

Patent Assignee: ZHANG B (ZHAN-I)

Inventor: **ZHANG B**

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CN 1098525	A	19950208	CN 94112196	A	19940608	199721 B

Priority Applications (No Type Date): CN 94112196 A 19940608

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
CN 1098525	A		G06F-003/023	

Abstract (Basic): CN 1098525 A

The present invention relates to a profile and sound combined Chinese character coding method. It uses the most-basic profile-sound method for creating word of Chinese character as basis, and decomposes the basic strokes and radicals by which the Chinese characters are formed and induces them to form 74 word radicals respectively belonged to 10 large classes and represented by ten figures of 0-9. Said invention can make separate word coding and coding of words and expressions, and the former uses numeral codes as main, and uses alphabet codes as auxiliary, and the latter uses alphabet codes as main, and uses numeral codes as auxiliary, and its code length is 4 bits. Its coding regulation is simple and clearly understand, easy to learn and memorize, and its operation is convenient.

Title Terms: PROFILE; PHONETIC; COMPOUND; CODE

Derwent Class: T04; U21

International Patent Class (Main): **G06F-003/023**

File Segment: EPI

5/5/17 (Item 17 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011249121 **Image available**

WPI Acc No: 1997-227024/199721

XRPX Acc No: N97-187694

Chinese-character key-in using modern standard Chinese pronunciation - involves keying phonetic Chinese character along with ones whose phonetic pronunciations are displayed on screen

Patent Assignee: ZHANG B (ZHAN-I)

Inventor: **ZHANG B**

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CN 1098208	A	19950201	CN 93108844	A	19930726	199721 B

Priority Applications (No Type Date): CN 93108844 A 19930726

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
CN 1098208	A	1	G06F-003/023	

Abstract (Basic): CN 1098208 A

The Chinese-character entering system is based on pronunciation. The first keying is the beginning phonetic character of a Chinese character and all the Chinese characters whose pronunciation begins

with the phonetic character show on screen. Then a phonetic representation key is pressed to show all the Chinese homophones on screen.

ADVANTAGE - Does not require analysis of character structure, so easy learning and use.

Dwg.1/1

Title Terms: CHINESE; CHARACTER; KEY; MODERN; STANDARD; CHINESE; PRONOUNCED ; KEY; PHONETIC; CHINESE; CHARACTER; PHONETIC; DISPLAY; SCREEN

Derwent Class: T01; T04

International Patent Class (Main): G06F-003/023

File Segment: EPI

5/5/18 (Item 18 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010457423 **Image available**

WPI Acc No: 1995-358742/199546

XRPX Acc No: N95-266555

Computer system for audio and video output - has local memory with specified region for emulating registers and communication region for transmitting messages.

Patent Assignee: SIGMA DESIGNS INC (SIGM-N)

Inventor: HSU M ; LE CORNEC Y; NGUYEN J T

Number of Countries: 060 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9527243	A1	19951012	WO 95US3847	A	19950329	199546 B
AU 9521988	A	19951023	AU 9521988	A	19950329	199605
US 5598576	A	19970128	US 94219841	A	19940330	199710
US 5797029	A	19980818	US 94219841	A	19940330	199840
			US 97786295	A	19970122	
US 6175880	B1	20010116	US 94219841	A	19940330	200106
			US 97786295	A	19970122	
			US 98135151	A	19980817	
US 6412024	B1	20020625	US 98135151	A	19980817	200246 N
			US 2000672168	A	20000927	

Priority Applications (No Type Date): US 94219841 A 19940330; US 97786295 A 19970122; US 98135151 A 19980817; US 2000672168 A 20000927

Cited Patents: 1.Jnl.Ref; US 4414620; US 4447873; US 4663730; US 4901232; US 5276684; US 5276807; US 5276864; US 5283883

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9527243 A1 26 G06F-003/16

Designated States (National): AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB HU IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW NL NO NZ PL PT RO RU SD SE SG SI SK TJ TM UA UG US UZ VN

Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA PT SE

AU 9521988 A G06F-003/16 Based on patent WO 9527243

US 5598576 A 9 G06F-015/02

US 5797029 A G06F-015/02 Cont of application US 94219841

Cont of patent US 5598576

US 6175880 B1 G06F-015/02 Cont of application US 94219841

Cont of application US 97786295

Cont of patent US 5598576

Cont of patent US 5797029

US 6412024 B1 G06F-015/40 Cont of application US 98135151

Cont of patent US 6175880

Abstract (Basic): WO 9527243 A

The computer system includes a system bus, which has a processor, a system memory and an audio output coupled to it. A bus interface element (201) coupled also to the system bus, passes commands and data to and from the processor. A digital signal processor (202) is coupled to the interface element for interpreting and executing instructions.

The DSP also sends acknowledge signals to the interface element upon completion of a command.

A local memory coupled to the interface element and the digital signal processor, has a communication area. The interface element writes to or reads from the communication area. The digital signal processor reads from and writes to the communication area in response to commands.

USE/ADVANTAGE - For personal computer. Compatible with single command interface. Does not require use of physical registers due to simulation. Fast and easy to upgrade. Less wastage of computing power.

Dwg.2/3

Title Terms: COMPUTER; SYSTEM; AUDIO; VIDEO; OUTPUT; LOCAL; MEMORY; SPECIFIED; REGION; EMULATION; REGISTER; COMMUNICATE; REGION; TRANSMIT; MESSAGE

Derwent Class: T01

International Patent Class (Main): G06F-003/16 ; G06F-015/02 ;

G06F-015/40

International Patent Class (Additional): G06F-013/00

File Segment: EPI

5/5/19 (Item 19 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010344501 **Image available**

WPI Acc No: 1995-246589/199532

XRPX Acc No: N95-191491

Computer system with file transform mechanism - uses data storage sub-system to store blocks of data in two data areas and processor to execute instructions implementing operating system and application program in each data area

Patent Assignee: HSU M S C (HSUM-I); HSU M S (HSUM-I)

Inventor: HSU M S C ; HSU M S

Number of Countries: 002 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9518496	A1	19950706	WO 94US14486	A	19941215	199532 B
AU 9514025	A	19950717	AU 9514025	A	19941215	199544
US 5584023	A	19961210	US 93175192	A	19931227	199704

Priority Applications (No Type Date): US 93175192 A 19931227

Cited Patents: US 4588991; US 4780905; US 5007082; US 5052040; US 5113442; US 5175852

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9518496	A1	E	46	H04L-009/00	
AU 9514025	A			H04L-009/00	Based on patent WO 9518496
US 5584023	A		17	H04L-009/32	

Abstract (Basic): WO 9518496 A

The computer system (10) includes a file transform mechanism e.g. encryption, compression, encoding, translation and conversion, a file storage sub-system (18,22), a data storage sub system (16) for storing blocks of data in first and second logical data areas and a processor (12) for executing instructions implementing an operating system in the first logical data area and an application program in the second data area.

The processor includes a transform mechanism for transforming a predetermined block of data in the first logical data area separately from any other block of data, a request mechanism for selecting the predetermined block of data to be operated on, and an interface that controls the transfer of the predetermined block of data between the file storage sub-system and the data storage sub-system, and between the two data areas, transforming the data as required.

USE/ADVANTAGE - Extension system for multi-tasking computer system with secure, block-oriented file service mechanism used transparently within operating system. Provides secure file encryption mechanism

within operating system at highest control level while maintains full compatibility with multi-tasking and multi-user operating system process inheritance mechanisms.

Dwg.1/5B

Title Terms: COMPUTER; SYSTEM; FILE; TRANSFORM; MECHANISM; DATA; STORAGE; SUB; SYSTEM; STORAGE; BLOCK; DATA; TWO; DATA; AREA; PROCESSOR; EXECUTE; INSTRUCTION; IMPLEMENT; OPERATE; SYSTEM; APPLY; PROGRAM; DATA; AREA

Derwent Class: T01; W01

International Patent Class (Main): H04L-009/00; H04L-009/32

International Patent Class (Additional): G06F-009/44 ; G06F-012/14 ; H03M-007/30

File Segment: EPI

5/5/20 (Item 20 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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010047802 **Image available**

WPI Acc No: 1994-315513/199439

XRPX Acc No: N94-247781

Vehicle automatic locating and security system - uses RF triangular location method with several terminals allocated in each vehicle including one hidden antenna, one transceiver, one controller and one back-up battery.

Patent Assignee: TAIWAN SECON CO LTD (TASE-N)

Inventor: CHEN I; CHEN K; HSU M ; LII R

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
TW 229300	A	19940901	TW 93110994	A	19931224	199439 B

Priority Applications (No Type Date): TW 93110994 A 19931224

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
TW 229300	A		29	G08B-013/04	

Abstract (Basic): TW 229300 A

The automatic locating system includes a control centre with at least one personal computer which includes a location computing device for calculating a position of a located vehicle. A control storage device controls and stores data. A display device displays the vehicle number plate, status and location on an electronic map with several windows. A central station transmits a digital signal. Several leased lines or telephone lines connected to base station receive directive data. At least three base stations are used for direction searching, using leased lines or telephone lines connected to the control centre.

A receiver with an omnidirectional antenna receives the signals transmitted by each vehicle. A personal computer locates the wave by digital signal processing the different phases of the received signal. A modem transmits the vehicle identification code, status identification code, emitting power, signal strength and direction data to the control centre through the leased line or telephone line.

ADVANTAGE - Power sent from terminal is adaptive and is increased or decreased step by step on instruction sent from control centre to avoid direction uncertainty due to weak signal or unnecessary interference.

Dwg.1/9

Title Terms: VEHICLE; AUTOMATIC; LOCATE; SECURE; SYSTEM; RF; TRIANGLE; LOCATE; METHOD; TERMINAL; ALLOCATE; VEHICLE; ONE; HIDE; ANTENNA; ONE; TRANSCEIVER; ONE; CONTROL; ONE; BACK-UP; BATTERY

Index Terms/Additional Words: OMNIDIRECTIONAL; ANTENNA

Derwent Class: T01; W05; W06; X22

International Patent Class (Main): G08B-013/04

International Patent Class (Additional): G06F-013/10 ; G08B-013/08; H04L-029/02

File Segment: EPI

5/5/21 (Item 21 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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009557585 **Image available**
WPI Acc No: 1993-251132/199332
XRPX Acc No: N93-193451

Executing, tracking and recovering long running computations - executes long running transaction in units of steps with status tracked by storage of status data concerning execution of steps associated with each long running transaction

Patent Assignee: DIGITAL EQUIP CORP (DIGI)
Inventor: GHONEIMY A; HSU M ; KLEISSNER K
Number of Countries: 005 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 554854	A2	19930811	EP 93101660	A	19930203	199332 B
EP 554854	A3	19960228	EP 93101660	A	19930203	199622
US 5524241	A	19960604	US 92831114	A	19920204	199628
			US 95426415	A	19950418	

Priority Applications (No Type Date): US 92831114 A 19920204; US 95426415 A 19950418

Cited Patents: 3.Jnl.Ref; EP 236743

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 554854	A2	E	28	G06F-009/46	
Designated States (Regional): DE FR GB IT					
US 5524241	A		25	G06F-011/34	Cont of application US 92831114
EP 554854	A3			G06F-009/46	

Abstract (Basic): EP 554854 A

The apparatus includes a flow description unit storing data representing each long running transaction as a set of steps with data flows between them. The data flows in and out of each step are included. The flow controller creates instances of transactions when corresp. input events are received and controls their execution.

The flow controller stores the results for each executed step. A history management unit stores and retrieves status data of the executed transactions. Long running transactions are executed in steps, and each long running transaction's status is tracked by storage of the status data concerning execution of the associated steps.

ADVANTAGE - Durably stores sufficient data to recover long running transaction with virtually no loss of work that was accomplished prior to system failure.

Dwg.2/18

Title Terms: EXECUTE; TRACK; RECOVER; LONG; RUN; COMPUTATION; EXECUTE; LONG ; RUN; TRANSACTION; UNIT; STEP; STATUS; TRACK; STORAGE; STATUS; DATA; EXECUTE; STEP; ASSOCIATE; LONG; RUN; TRANSACTION

Derwent Class: T01

International Patent Class (Main): G06F-009/46 ; G06F-011/34

International Patent Class (Additional): G06F-011/14 ; G06F-015/16

File Segment: EPI

5/5/22 (Item 22 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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009557291 **Image available**
WPI Acc No: 1993-250838/199332
XRPX Acc No: N93-193223

Computer based management system for production control of processes - has stored data and cycle instructions to control operations based upon established criteria

Patent Assignee: DIGITAL EQUIP CORP (DIGI) ; NIPPON DIGITAL EQUIP KK (DIGI)

Inventor: GHONEIMY A; HSU M ; KLEISSNER K
Number of Countries: 004 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 4303062	A1	19930805	DE 4303062	A	19930203	199332 B
GB 2263988	A	19930811	GB 931823	A	19930129	199332
JP 6083841	A	19940325	JP 9317297	A	19930204	199417
GB 2263988	B	19960522	GB 931823	A	19930129	199624
US 5581691	A	19961203	US 92830654	A	19920204	199703
			US 95516729	A	19950818	
DE 4303062	C2	19990107	DE 4303062	A	19930203	199905

Priority Applications (No Type Date): US 92830654 A 19920204; US 95516729 A 19950818

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 4303062	A1		32	G06F-009/44	
GB 2263988	A		64	G06F-015/20	
JP 6083841	A		26	G06F-015/21	
GB 2263988	B		1	G06F-017/60	
US 5581691	A		26	G06F-011/00	Cont of application US 92830654
DE 4303062	C2			G06F-017/30	

Abstract (Basic): DE 4303062 A

The computer based system has a management structure (120) based upon a number of modules. One module (114) stores data relating to the type of operation and this is controlled by a supervisory unit (122). A separate area of the memory (116) stores historical data acquired from operation of the system.

Both sets of data are used by the cycle controller (130). Steps in the system cycle are executed based upon the input of a required number of signals.

ADVANTAGE - Provides rapid restart following interruption.

Dwg.2/22

Title Terms: COMPUTER; BASED; MANAGEMENT; SYSTEM; PRODUCE; CONTROL; PROCESS ; STORAGE; DATA; CYCLE; INSTRUCTION; CONTROL; OPERATE; BASED; ESTABLISH; CRITERIA

Derwent Class: T01; T06

International Patent Class (Main): G06F-009/44 ; G06F-011/00 ; G06F-015/20 ; G06F-015/21 ; G06F-017/30 ; G06F-017/60

International Patent Class (Additional): G06F-015/46 ; G06F-019/00 ; H04L-012/28

File Segment: EPI

5/5/23 (Item 23 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009288647 **Image available**

WPI Acc No: 1992-416058/199250

XRPX Acc No: N92-317264

Gateway for interfacing personal computers to integrated services digital network - provides network gateway module to carry out data protocol conversion at customer premises to interface host computer with ISDN line

Patent Assignee: BELL ATLANTIC NETWORK SERVICES (BELL-N); CUMMINGS P

(CUMM-I); GAGLIARDI U O (GAGL-I); HSU M (HSUM-I); MATTIN S A (MATT-I)

Inventor: CUMMINGS P; GAGLIARDI U O; HSU M ; MATTIN S A; MATTIN S

Number of Countries: 035 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9221185	A1	19921126	WO 91US3612	A	19910524	199250 B
AU 9180622	A	19921230	AU 9180622	A	19910524	199313
			WO 91US3612	A	19910524	
NZ 242528	A	19950328	NZ 242528	A	19920428	199519
US 5444703	A	19950822	WO 91US3612	A	19910524	199539
			US 9494144	A	19940114	
CA 2109634	C	20010724	CA 2109634	A	19910524	200147

Priority Applications (No Type Date): WO 91US3612 A 19910524

Cited Patents: US 4993014; US 4996685; US 5023868

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9221185 A1 E 54 H04J-003/02

Designated States (National): AT AU BB BG BR CA CH DE DK ES FI GB HU JP
KP KR LK LU MC MG MW NL NO PL RO SD SE SU US

Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU NL OA SE

AU 9180622 A H04J-003/02 Based on patent WO 9221185

NZ 242528 A H04L-012/00

US 5444703 A 22 H04J-003/16 Based on patent WO 9221185

CA 2109634 C E G06F-013/42 Based on patent WO 9221185

Abstract (Basic): WO 9221185 A

The Integrated Services Digital Network (ISDN) gateway (GW1,2) (H), i.e. a single appts. or a local area network thereof, comprises at least one PCB resident in each computer for carrying out protocol conversion and other network interface functions user-transparently. To improve bandwidth utilisation of the ISDN line when transmitting voice or data, an algorithm dynamically allocates B-channel bandwidth, by monitoring traffic density at each destination queue and allocating or de-allocating virtual B-channels. Bandwidth utilisation is optimised by packaging data packets into algorithm-compressed trains, for transmission when complete to their destination.

USE/ADVANTAGE - For interfacing of personal computers with ISDN. Achieves optimum use of bandwidth by dynamically allocating B-channels user-transparently.

Dwg.4/21

Title Terms: GATEWAY; INTERFACE; PERSON; COMPUTER; INTEGRATE; SERVICE;

DIGITAL; NETWORK; NETWORK; GATEWAY; MODULE; CARRY; DATA; PROTOCOL;

CONVERT; CUSTOMER; PREMISES; INTERFACE; HOST; COMPUTER; ISDN; LINE

Derwent Class: T01; W01

International Patent Class (Main): G06F-013/42 ; H04J-003/02; H04J-003/16;

H04L-012/00

International Patent Class (Additional): H04J-003/14; H04L-012/46;

H04L-012/52

File Segment: EPI

Set	Items	Description
S1	111	KMEAN? OR KMEDIAN? OR KPROTOTYP? OR K() (MEAN? ? OR MEDIAN? OR PROTOTYP?)
S2	2341329	CLUSTER? OR DATACLUSTER? OR GROUP? OR ORGANIZ? OR ORGANIS? OR ARRANGE? OR CLASSIF?
S3	2974451	BOUNDAR? OR EDGE? OR LIMIT? OR LINE? OR PARTITION? OR BORD- ER? OR DIVIDER?
S4	1165491	CENTER? OR CENTRE? OR CENTRAL?
S5	3443950	SIZE? OR MAGNITUDE? OR NUMBER? OR AMOUNT? OR QUANTIT? OR T- OTAL? ? OR COUNT OR COUNTS
S6	34	S1 AND S2
S7	24	S6 AND (S3 OR S5)
S8	3	S6 AND S4
S9	26	S7 OR S8
S10	4	S9 AND IC=G06F?
S11	1	S1 AND MC=T01-N03A?
S12	1	S1 AND MC=T01-N0?
S13	11	S1 AND MC=T01?
S14	6	S13 AND S5
S15	8	S14 OR S10 OR S11
S16	8	IDPAT (sorted in duplicate/non-duplicate order)
S17	8	IDPAT (primary/non-duplicate records only)
S18	25	S1 AND (S3 OR S4) AND S5
S19	14	S18 NOT S9
S20	2	S19 AND IC=G06F?
S21	0	S19 AND MC=T01?
S22	2	S20 OR S21
S23	2	IDPAT (sorted in duplicate/non-duplicate order)
S24	2	IDPAT (primary/non-duplicate records only)
S25	1	S1 AND (DATAMIN? OR DATA() (MINE OR MINING?))

File 347:JAPIO Oct 1976-2002/May(Updated 020903)
(c) 2002 JPO & JAPIO

File 350:Derwent WPIX 1963-2002/UD,UM &UP=200260
(c) 2002 Thomson Derwent

25/5/1 (Item 1 from file: 350)
DIALOG(R) File 350:Derwent WPIX
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012964408 **Image available**
WPI Acc No: 2000-136259/200012
XRPX Acc No: N00-101871

Data clustering method in database of computer data processing system

Patent Assignee: MICROSOFT CORP (MICR-N)
Inventor: BRADLEY P S; FAYYAD U; REINA C
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6012058	A	20000104	US 9842540	A	19980317	200012 B

Priority Applications (No Type Date): US 9842540 A 19980317

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6012058	A		28	G06F-017/00	

Abstract (Basic): US 6012058 A

NOVELTY - A cluster number K' is chosen for categorizing data in K different clusters. Data records are assigned from data portion to one cluster and a mean of data records is determined, summarized, and stored in a rapid access memory. An additional portion of the data records are accessed and stored. A criteria to determine if further data should be accessed from the database, is evaluated to continue clustering.

DETAILED DESCRIPTION - An extended **K means** evaluation of the data records and the summarization of data is used to calculate a clustering model that includes a mean of for each K different clusters. The data records are vectors. INDEPENDENT CLAIMS are also included for the following:

- (a) data evaluating apparatus;
- (b) data evaluating program

USE - For **K means** clustering of large database in computer data processing system for use in business organizations, for data visualization, indexing, prediction, and **data mining** for use in marketing, fraud detection, customer retention and churn minimization including airlines, telecom services, internet, direct marketing and live marketing on electronic commerce.

ADVANTAGE - Enables effective and accurate clustering in one or less scans of database, thus resulting in a better performance. By analyzing a mixture of sufficient statistics and actual data points, better clustering is achieved with lower memory requirements. By incrementally accessing and then summarizing a portion of the data, the process is performed in a limited size memory buffer of computer.

DESCRIPTION OF DRAWING(S) - The figure shows the flow diagram of the clustering method.

pp; 28 DwgNo 4/14

Title Terms: DATA; METHOD; DATABASE; COMPUTER; DATA; PROCESS; SYSTEM

Derwent Class: T01

International Patent Class (Main): G06F-017/00

File Segment: EPI

?ds

24/5/1 (Item 1 from file: 347)
DIALOG(R) File 347:JAPIO
(c) 2002 JPO & JAPIO. All rts. reserv.

03636768 **Image available**
TEXTURE MEASURING INSTRUMENT

PUB. NO.: 04-001868 [JP 4001868 A]
PUBLISHED: January 07, 1992 (19920107)
INVENTOR(s): YAMADA SAWAAKI
TAKAMOTO TOMOHIRO
APPLICANT(s): NRI & NCC CO LTD [420135] (A Japanese Company or Corporation)
, JP (Japan)
APPL. NO.: 02-104105 [JP 90104105]
FILED: April 19, 1990 (19900419)
INTL CLASS: [5] G06F-015/70
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications)
JOURNAL: Section: P, Section No. 1336, Vol. 16, No. 147, Pg. 2, April
13, 1992 (19920413)

ABSTRACT

PURPOSE: To automatically measure a texture on the surface of an object by providing a tilt calculation means, a .beta. value calculation means which obtains the fluctuation characteristic .beta. value from the calculated tilt and based on a specific formula, and a means which compares the .beta. value with the prescribed value to decide the texture.

CONSTITUTION: A both-logarithm conversion means 14 performs a logarithmic display where the measured power spectral value is set on a vertical axis with a space frequency set on a horizontal axis respectively. The means 14 is connected with a tilt calculation means 15 which calculates a characteristic curve shown in the logarithmic display as a **linear** tilt by means of a method of least squares, for example, and maintains the tilt. The means 15 is connected with a fluctuation characteristic value .beta. calculation means 16 which calculates the value .beta. from the calculated tilt. The value .beta. is calculated by an equation I and then compared with the prescribed value. Thus an artificial state and a natural state are decided when the value .beta. is larger and smaller than the prescribed value respectively. In the equation I, P, (f) and (k) **mean** the power spectral value, a spacial frequency and a constant respectively. Thus the texture of a sample is automatically and **quantitatively** measured.

24/5/2 (Item 2 from file: 347)
DIALOG(R) File 347:JAPIO
(c) 2002 JPO & JAPIO. All rts. reserv.

01494045 **Image available**
INFORMATION TRANSFER DEVICE

PUB. NO.: 59-205645 [JP 59205645 A]
PUBLISHED: November 21, 1984 (19841121)
INVENTOR(s): KADAIRA GIZOU
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 58-078995 [JP 8378995]
FILED: May 06, 1983 (19830506)
INTL CLASS: [3] G06F-005/06 ; G06F-007/00
JAPIO CLASS: 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units)
JOURNAL: Section: P, Section No. 345, Vol. 09, No. 72, Pg. 159, April
02, 1985 (19850402)

ABSTRACT

PURPOSE: To execute an instruction at a high speed by detecting the timing with which the element data is outputted just few minutes successively and continuously from a buffer and indicating the reading start.

CONSTITUTION: A reading start indicating circuit 6 detects that 20 element data, for example, can be read out successively and continuously to a buffer 2 if the reading is started when those element data are written from the input information given via input lines 61 and 62 and based on a conditional equation $m > n(1 - 1/k)$. In this case, all element data (n) equals to 40 and (k) means 2 machine cycles respectively. When the value showing the number of elements written to the buffer 2 from a control circuit 3 reaches 20, a reading start indicating signal is transmitted via an output line 71 before the writing is through with all of 40 element data to the buffer 2.

17/5/1 (Item 1 from File: 350)
DIALOG(R) File 350: Derwent WPIX
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014708495 **Image available**
WPI Acc No: 2002-529199/200256
XRPX Acc No: N02-419110

Data clustering method e.g. for databases, where each data is analysed to identify a group whose centre is close to that data input, and the analysis of data inputs is repeated until all data inputs have been assigned to groups

Patent Assignee: ODDO A S (ODDO-I); PREDICTIVE NETWORKS INC (PRED-N)
Inventor: ODDO A S
Number of Countries: 096 Number of Patents: 002
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
WO 200257958 A1 20020725 WO 2002US1453 A 20020117 200256 B
US 20020099702 A1 20020725 US 2001766377 A 20010119 200258

Priority Applications (No Type Date): US 2001766377 A 20010119
Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
WO 200257958 A1 E 27 G06F-017/30

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA
CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS
JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL
PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW

US 20020099702 A1 G06F-007/00

Abstract (Basic): WO 200257958 A1

NOVELTY - Method for **clustering** data inputs into **groups** comprises: defining a match threshold; designating a data input as **centre** of a **group**; analysing another data input to identify a **group** whose **centre** has a proximity to the input that is above the match threshold, and if such a **group** is identified, assigning the data input to that **group**; if the data input has a proximity to the **centre** of no **group** above the match threshold, creating a new **group** and designating the data input a's **centre** of the new **group**; and repeating the above steps until all data inputs have been assigned to **groups**.

DETAILED DESCRIPTION - INDEPENDENT CLAIM included for the following: computer program; computer; method of suggesting a web site; method of **organising** search engine results

USE - For databases.

ADVANTAGE - Provides a highly efficient method for **clustering** data. The method includes the advantages of the **K - means** algorithm and ART without the disadvantages. The method can **classify** any set of inputs with one pass through the set using a computationally inexpensive **grouping** mechanism. The method converges to its optimal solution after the second pass. The method achieves this peak performance without the use of compliment coding. Furthermore, it allows the user to control the degree of the match between a data entry and a **group**.

DESCRIPTION OF DRAWING(S) - The flow chart illustrates the first pass of the **clustering** method.

pp; 27 DwgNo 1/4

Title Terms: DATA; METHOD; DATA; ANALYSE; IDENTIFY; **GROUP**; **CENTRE**; **CLOSE**; DATA; INPUT; ANALYSE; DATA; INPUT; REPEAT; DATA; INPUT; ASSIGN; **GROUP**

Derwent Class: T01

International Patent Class (Main): G06F-007/00 ; G06F-017/30

File Segment: EPI

17/5/2 (Item 2 from file: 350)
DIALOG(R) File 350: Derwent WPIX

014595046 **Image available**
WPI Acc No: 2002-415750/200244
Related WPI Acc No: 2002-404746
XRPX Acc No: N02-327075

Anomaly detection system teaching method in computer network, involves incorporating presentation of time which is periodic, continuous and unambiguous within specific period of observable element into data component

Patent Assignee: NOKIA CORP (OYNO)
Inventor: HAETOENEN K; HOEGLUND A; SORVARI A
Number of Countries: 097 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200221242	A1	20020314	WO 2001FI783	A	20010910	200244 B
FI 200001997	A	20020312	FI 20001997	A	20000911	200244
AU 200187759	A	20020322	AU 200187759	A	20010910	200251

Priority Applications (No Type Date): FI 20001997 A 20000911

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200221242 A1 E 19 G06F-001/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA
CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN
IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ
PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

FI 200001997 A G06F-000/00

AU 200187759 A G06F-001/00 Based on patent WO 200221242

Abstract (Basic): WO 200221242 A1

NOVELTY - The assembled indicators are **arranged** such that each observable element's indicator are assigned with respective input data component. The learning mechanism is activated, such that input data components of mechanism corresponds with the input data components of indicators. The presentation of time which is periodic, continuous and unambiguous within period (L) of observable element, is included in input data component of mechanism.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Anomalies detection **arrangement** ;

(b) Recorded medium storing anomaly detection program

USE - For teaching anomaly detection system used in UNIX based computer system and telecommunication network.

ADVANTAGE - The presentation of time is formulated for solving problem caused by time varying normal behavior of system such as telecommunication networks. The detection of anomaly is not **limited** to self **organizing** maps but can be used with other **clustering** techniques such as **k - means** and learning vector quantization. Enables determining normal and anomalous behavior, efficiently.

DESCRIPTION OF DRAWING(S) - The figure shows the flowchart illustrating the anomaly detection process.

pp; 19 DwgNo 3/4

Title Terms: ANOMALY; DETECT; SYSTEM; TEACH; METHOD; COMPUTER; NETWORK;
INCORPORATE; PRESENT; TIME; PERIODIC; CONTINUOUS; UNAMBIGUOUS; SPECIFIC;
PERIOD; OBSERVE; ELEMENT; DATA; COMPONENT

Derwent Class: T01

International Patent Class (Main): G06F-000/00 ; G06F-001/00

International Patent Class (Additional): G06F-015/18 ; G06N-003/08

File Segment: EPI

17/5/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

012964408 **Image available**
WPI Acc No: 2000-136259/200012
XRPX Acc No: N00-101871

Data clustering method in database of computer data processing system
Patent Assignee: MICROSOFT CORP (MICR-N)
Inventor: BRADLEY P S; FAYYAD U; REINA C
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6012058	A	20000104	US 9842540	A	19980317	200012 B

Priority Applications (No Type Date): US 9842540 A 19980317

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6012058	A		28	G06F-017/00	

Abstract (Basic): US 6012058 A

NOVELTY - A **cluster number K** is chosen for categorizing data in K different **clusters**. Data records are assigned from data portion to one **cluster** and a mean of data records is determined, summarized, and stored in a rapid access memory. An additional portion of the data records are accessed and stored. A criteria to determine if further data should be accessed from the database, is evaluated to continue **clustering**.

DETAILED DESCRIPTION - An extended **K means** evaluation of the data records and the summarization of data is used to calculate a **clustering** model that includes a mean of for each K different **clusters**. The data records are vectors. INDEPENDENT CLAIMS are also included for the following:

- (a) data evaluating apparatus;
- (b) data evaluating program

USE - For **K means clustering** of large database in computer data processing system for use in business **organizations**, for data visualization, indexing, prediction, and data mining for use in marketing, fraud detection, customer retention and churn minimization including airlines, telecom services, internet, direct marketing and live marketing on electronic commerce.

ADVANTAGE - Enables effective and accurate **clustering** in one or less scans of database, thus resulting in a better performance. By analyzing a mixture of sufficient statistics and actual data points, better **clustering** is achieved with lower memory requirements. By incrementally accessing and then summarizing a portion of the data, the process is performed in a **limited size** memory buffer of computer.

DESCRIPTION OF DRAWING(S) - The figure shows the flow diagram of the **clustering** method.

pp; 28 DwgNo 4/14

Title Terms: DATA; METHOD; DATABASE; COMPUTER; DATA; PROCESS; SYSTEM

Derwent Class: T01

International Patent Class (Main): G06F-017/00

File Segment: EPI

17/5/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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009974407 **Image available**
WPI Acc No: 1994-242120/199430
XRPX Acc No: N94-191052

Automatic handwriting recognition using both static and dynamic parameters - generates and processes tablet data with three independent sets of feature vectors which encode shape information of input character information including horizontal and vertical slices of bit mapped input character image data

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: BELLEGARDA J R; NAHAMOO D; NATHAN K S
Number of Countries: 004 Number of Patents: 009
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 608708	A2	19940803	EP 94100357	A	19940112	199430 B
EP 608708	A3	19950329	EP 94100357	A	19940112	199543
US 5491758	A	19960213	US 939515	A	19930127	199612
US 5539839	A	19960723	US 939515	A	19930127	199635
			US 95450558	A	19950525	
US 5544261	A	19960806	US 939515	A	19930127	199637
			US 95450556	A	19950525	
US 5544264	A	19960806	US 939515	A	19930127	199637
			US 95451001	A	19950525	
US 5550931	A	19960827	US 939515	A	19930127	199640
			US 95450557	A	19950525	
EP 608708	B1	20000503	EP 94100357	A	19940112	200026
DE 69424196	E	20000608	DE 624196	A	19940112	200034
			EP 94100357	A	19940112	

Priority Applications (No Type Date): US 939515 A 19930127; US 95450558 A 19950525; US 95450556 A 19950525; US 95451001 A 19950525; US 95450557 A 19950525

Cited Patents: No-SR.Pub; DE 3822671

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 608708	A2	E	32	G06K-009/22	
Designated States (Regional): DE FR GB					
EP 608708	A3			G06K-009/22	
US 5491758	A		25	G06K-009/00	
US 5539839	A		25	G06K-009/00	Div ex application US 939515
					Div ex patent US 5491758
US 5544261	A		24	G06K-009/00	Div ex application US 939515
					Div ex patent US 5491758
US 5544264	A	E	8	G06K-009/00	Div ex application US 939515
					Div ex patent US 5491758
US 5550931	A		24	G06K-009/00	Div ex application US 939515
					Div ex patent US 5491758
EP 608708	B1	E		G06K-009/22	
Designated States (Regional): DE FR GB					
DE 69424196	E			G06K-009/22	Based on patent EP 608708

Abstract (Basic): EP 608708 A

The appts. comprises a handwriting transducer with an output providing x and y coordinate information generated (2) by a writer writing a character. The output of the transducer provides temporarily based feature vectors, similarly it provides shape based feature vectors.

These two outputs help to identify the most probable or most likely character that was written by the writer. The character prototypes constructed in accordance with the outputs are stored. A decoder (6) is responsive to an overall likelihood estimator and to a language model for identifying the most probable character (8) written by the writer.

ADVANTAGE - Produces errors by two methods which are to great extend orthogonal and consequently combination of two sets of parameters greatly reduces overall handwriting recognition error rate.

Dwg.3/23

Title Terms: AUTOMATIC; HANDWRITING; RECOGNISE; STATIC; DYNAMIC; PARAMETER; GENERATE; PROCESS; TABLET; DATA; THREE; INDEPENDENT; SET; FEATURE; VECTOR; ENCODE; SHAPE; INFORMATION; INPUT; CHARACTER; INFORMATION; HORIZONTAL; VERTICAL; SLICE; BIT; MAP; INPUT; CHARACTER; IMAGE; DATA

Derwent Class: A13; A95; E32; E36; T01; T04

International Patent Class (Main): G06K-009/00; G06K-009/22

International Patent Class (Additional): G06K-009/68

File Segment: CPI; EPI

17/5/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009727393 **Image available**

WPI Acc No: 1994-007243/1 401

XRPX Acc No: N94-005948

Automated television bingo game system - enters players on system from telephone input and compares selected numbers with assigned bingo cards, determining and displaying winners details

Patent Assignee: POCOCK A R (POCO-I); POCOCK T H (POCO-I); POCOCK A (POCO-I); POCOCK T (POCO-I)

Inventor: POCOCK A R; POCOCK T H; POCOCK A; POCOCK T

Number of Countries: 002 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9325290	A1	19931223	WO 93CA228	A	19930607	199401 B
US 5297802	A	19940329	US 92894744	A	19920605	199412
AU 9343026	A	19940104	AU 9343026	A	19930607	199417
US 5518253	A	19960521	US 92894744	A	19920605	199626
			US 94213705	A	19940316	

Priority Applications (No Type Date): US 92894744 A 19920605; US 94213705 A 19940316

Cited Patents: CA 1215431; EP 310368; US 4630830; US 4909516; US 5035422; US 5072381; US 5083272; WO 9106354

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9325290	A1	E	81	A63F-009/22	
US 5297802	A		34	A63F-003/06	
AU 9343026	A			A63F-009/22	Based on patent WO 9325290
US 5518253	A		31	A63F-003/06	Cont of application US 92894744 Cont of patent US 5297802

Abstract (Basic): WO 9325290 A

The computer system generates sheets containing a **number** of unique bingo cards for distribution to players in a television station's viewing area. Each sheet has a unique identifying **number**. Players are identified to the computer system by a telephone link and a sheet associated to each player by means of a sheet identification **number**. This information is stored on the computer's database.

Bingo **numbers** are randomly selected individually from a pool of seventy five possible **numbers** and displayed to the television viewer. The **numbers** are matched with the held bingo sheets and analysed for winning pattern matching. When winning patterns are identified, the identities of the players are determined and the television audience informed of the winners. A telephone system, with voice response system, provides information pertaining to a player's identity.

ADVANTAGE - Automatic billing. Automatic operation.

Dwg.1/15

Title Terms: AUTOMATIC; TELEVISION; BINGO; GAME; SYSTEM; ENTER; PLAY; SYSTEM; TELEPHONE; INPUT; COMPARE; SELECT; **NUMBER**; ASSIGN; BINGO; CARD; DETERMINE; DISPLAY; WINNING; DETAIL

Derwent Class: P36; T01; W01; W04

International Patent Class (Main): A63F-003/06; A63F-009/22

International Patent Class (Additional): G06F-015/44

File Segment: EPI; EngPI

17/5/6 (Item 6 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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007365258

WPI Acc No: 1987-362264/198751

XRPX Acc No: N87-271541

Reel mapping scheme for gaming machine - has memory storing map of symbols on each reel and memory to store stop position of each reel

Patent Assignee: BALLY MFG CORP (BALJ)

Inventor: CHAN T; PAJAK P; SALMONS V

Number of Countries: 003 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
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US 4711451	A	1987120	US 86891362	A	19860729	8751	B
GB 2193357	A	19880203	GB 8714200	A	19870617	198805	
AU 8775060	A	19880204				198813	
GB 2193357	B	19900314				199011	

Priority Applications (No Type Date): US 86891362 A 19860729

Patent Details:

Patent No	Kind	Lan	Pg	Main	IPC	Filing	Notes
US 4711451	A		10				

Abstract (Basic): US 4711451 A

The reel mapping scheme allows one standard reel stop control software routine to control the stopping of the reels when the device is operated as a standard gaming device, a multiple stop gaming device or a virtual reel gaming device. The gaming device includes a **number** of rotating symbol bearing reels, each reel having n stop positions associated with each symbol on the reel. For each reel, the gaming device stores a map of the symbols on the reel in a symbol map memory and a map of the stop positions on the reel in a stop map memory where the data stored in the first location in the reel map memory represents the first stop for a symbol whose data is stored in the first location in the symbol map memory.

Three mapping indexes are stored for each reel. One index stores only one value representing an address offset to the reel map memory at one location for each symbol on the reel to provide a standard gaming device. A second index stores two or more reel map address offset values for each symbol on a reel to provide a multiple stop gaming device. A third index stores, for each of a **number** of symbols on a reel, the same reel map address offset value at different locations in the index to provide a virtual reel gaming device.

Title Terms: REEL; MAP; SCHEME; GAME; MACHINE; MEMORY; STORAGE; MAP; SYMBOL ; REEL; MEMORY; STORAGE; STOP; POSITION; REEL

Derwent Class: P36; T01; W04

International Patent Class (Additional): A63B-071/04; **G06F-015/44** ; G07F-017/34

File Segment: EPI; EngPI

17/5/7 (Item 7 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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004723649

WPI Acc No: 1986-226991/198635

XRPX Acc No: N86-169377

Radix-beta numerical division appts. - operates in four phases to perform digital division

Patent Assignee: PRIME COMPUTER INC (PRIM)

Inventor: IRUKULLA S; PATEL B V

Number of Countries: 013 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 192420	A	19860827	EP 86300988	A	19860213	198635	B
US 4724529	A	19880209	US 85701556	A	19850214	198809	
CA 1244140	A	19881101				198848	
EP 192420	B	19910515				199120	
DE 3679214	G	19910620				199126	

Priority Applications (No Type Date): US 85701556 A 19850214

Cited Patents: 3.Jnl.Ref; A3...8749; No-SR.Pub; US 3735107; US 3736413

Patent Details:

Patent No	Kind	Lan	Pg	Main	IPC	Filing	Notes
EP 192420	A	E	54				

Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE

EP 192420 B

Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE

Abstract (Basic): EP 192420 A

The appts. receive signals representative of a numerator N and a denominator D. The appts. also generates (a) a signal representative of a transformation factor, K, (b) a signal (which is stored) representative of a transformed denominator, D', being in the range $(\beta-1)/\beta$ to one, and D' being equivalent to the product D.K, and (c) a signal representative of a transformed numerator, N; having a sign portion and a **magnitude** portion representative of at least one radix-beta digit. The appts. evaluates these portions to generate and store a signal representative of a quotient digit, q.

The appts. then selectively and repeatedly involves these operations. (i) generating a signal representative of a partial remainder, P, with a sign portion and a **magnitude** portion representative of at least one radix-beta digit and (ii) evaluating the sign portion and a single radix-beta digit representation portion of the partial remainder signal for generating and storing a signal representative of a quotient digit, q.

Title Terms: RADIX; BETA; NUMERIC; DIVIDE; APPARATUS; OPERATE; FOUR; PHASE; PERFORMANCE; DIGITAL; DIVIDE

Derwent Class: T01

International Patent Class (Additional): G06F-007/49

File Segment: EPI

17/5/8 (Item 8 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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004248837

WPI Acc No: 1985-075715/198513

XRPX Acc No: N85-056695

Vector sum generator esp. for digital TV receiver - has weighting circuit controlled by vector angle coeffts.

Patent Assignee: RCA CORP (RADC); RCA LICENSING CORP (RADC)

Inventor: CHIND ; CHIN D

Number of Countries: 016 Number of Patents: 019

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 3432122	A	19850321	DE 3432122	A	19840831	198513 B
FR 2551609	A	19850308				198515
GB 2146200	A	19850411	GB 8422085	A	19840831	198515
PT 79127	A	19850322				198516
SE 8404229	A	19850303				198516
AU 8432471	A	19850307				198517
ZA 8406841	A	19850305				198523
FI 8403353	A	19850303				198525
JP 60090488	A	19850521	JP 84183598	A	19840831	198526
DK 8404199	A	19850303				198603
US 4587552	A	19860506	US 83529136	A	19830902	198621
ES 8606752	A	19861001	ES 535419	A	19840824	198649
GB 2146200	B	19870325				198712
CA 1219342	A	19870317				198715
SE 454641	B	19880516				198822
IT 1175646	B	19870715				199030
AT 8402821	A	19910815				199136
DE 3432122	C2	19931014	DE 3432122	A	19840831	199341
KR 9205220	B1	19920629	KR 845357	A	19840831	199401

Priority Applications (No Type Date): US 83529136 A 19830902

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 3432122	A		19		
DE 3432122	C2		10	G06F-015/347	
KR 9205220	B1			H04N-009/64	

Abstract (Basic): DE 3432122 A

A coefft. generator is controlled by the angle values between the vector sum and the axis of one vector component and produces coeffts. related to these values. The coeffts. control a weighting circuit whose

output goes to an adder whose other input receives one vector component via a coupling circuit. The latter feeds the other component to the weighting circuit, so that the adder output represents the sum of the two vector components.

Pref. the coupling circuit contains one or more absolute value circuits which only allow passage of the vector component signals.

USE/ADVANTAGE - Producing sum values of two vector components, e.g. for use in a digital TV receiver. Much simpler circuitry.

0/3

Title Terms: VECTOR; SUM; GENERATOR; DIGITAL; TELEVISION; RECEIVE; WEIGHT; CIRCUIT; CONTROL; VECTOR; ANGLE; COEFFICIENT

Derwent Class: T01; W03

International Patent Class (Main): G06F-015/347; H04N-009/64

International Patent Class (Additional): G01D-001/16; G06F-015/34;

G06G-007/22; H03K-019/20; H04H-009/64; H04N-007/13; H04N-009/53;

H04N-009/73

File Segment: EPI

Set	Items	Descript.
S1	3705	KMEAN? OR KMEDIAN? OR KPROTOTYP? OR K() (MEAN? ? OR MEDIAN? OR PROTOTYP?)
S2	6554243	CLUSTER? OR DATACLUSTER? OR GROUP? OR ORGANIZ? OR ORGANIS? OR ARRANGE? OR CLASSIF?
S3	8039911	BOUNDAR? OR EDGE? OR LIMIT? OR LINE? OR PARTITION? OR BORD- ER? OR DIVIDER?
S4	2949562	CENTER? OR CENTRE? OR CENTRAL?
S5	8621832	SIZE? OR MAGNITUDE? OR NUMBER? OR AMOUNT? OR QUANTIT? OR T- OTAL? ? OR COUNT OR COUNTS
S6	46	S1 AND S2 AND S3 AND S4 AND S5
S7	33	RD (unique items)
S8	31	S7 NOT PY>2000
S9	31	S8 NOT PD>20001004
File	99:Wilson Appl. Sci & Tech Abs 1983-2002/Aug	(c) 2002 The HW Wilson Co.
File	62:SPIN(R) 1975-2002/Aug W3	(c) 2002 American Institute of Physics
File	34:SciSearch(R) Cited Ref Sci 1990-2002/Sep W4	(c) 2002 Inst for Sci Info
File	434:SciSearch(R) Cited Ref Sci 1974-1989/Dec	(c) 1998 Inst for Sci Info
File	144:Pascal 1973-2002/Sep W4	(c) 2002 INIST/CNRS
File	6:NTIS 1964-2002/Sep W4	(c) 2002 NTIS, Intl Cpyrght All Rights Res
File	233:Internet & Personal Comp. Abs. 1981-2002/Sep	(c) 2002 Info. Today Inc.
File	111:TGG Natl.Newspaper Index(SM) 1979-2002/Sep 19	(c) 2002 The Gale Group
File	94:JICST-EPlus 1985-2002/Jul W4	(c)2002 Japan Science and Tech Corp(JST)
File	2:INSPEC 1969-2002/Sep W4	(c) 2002 Institution of Electrical Engineers
File	65:Inside Conferences 1993-2002/Sep W4	(c) 2002 BLDSC all rts. reserv.
File	202:Information Science Abs. 1966-2002/Aug 26	(c) Information Today, Inc
File	35:Dissertation Abs Online 1861-2002/Aug	(c) 2002 ProQuest Info&Learning
File	77:Conference Papers Index 1973-2002/Sep	(c) 2002 Cambridge Sci Abs
File	8:Ei Compendex(R) 1970-2002/Sep W3	(c) 2002 Engineering Info. Inc.

9/5/1 (Item 1 from file: 34)

DIALOG(R) File 34:SciSearch(R) Cited Ref Sci
(c) 2002 Inst for Sci Info. All rts. reserv.

06073514 Genuine Article#: XT731 Number of References: 39

**Title: Mean-tracking clustering algorithm for radial basis function
centre selection**

Author(s): Sutanto EL (REPRINT) ; Mason JD; Warwick K

Corporate Source: UNIV READING, DEPT CYBERNET, POB 225/READING RG6
6AY/BERKS/ENGLAND/ (REPRINT)

Journal: INTERNATIONAL JOURNAL OF CONTROL, 1997, V67, N6 (AUG), P961-977

ISSN: 0020-7179 Publication date: 19970800

Publisher: TAYLOR & FRANCIS LTD, ONE GUNPOWDER SQUARE, LONDON, ENGLAND EC4A
3DE

Language: English Document Type: ARTICLE

Geographic Location: ENGLAND

Subfile: CC ENGI--Current Contents, Engineering, Computing & Technology

Journal Subject Category: ROBOTICS & AUTOMATIC CONTROL

Abstract: Radial basis functions can be combined into a network structure that has several advantages over conventional neural network solutions. However, to operate effectively the **number** and positions of the basis function **centres** must be carefully selected. Although no rigorous algorithm exists for this purpose, several heuristic methods have been suggested. In this paper a new method is proposed in which radial basis function **centres** are selected by the mean-tracking **clustering** algorithm. The mean-tracking algorithm is compared with **k means clustering** and it is shown that it achieves significantly better results in terms of radial basis function performance. As well as being computationally simpler, the mean-tracking algorithm in general selects better **centre** positions, thus providing the radial basis functions with better modelling accuracy.

Identifiers--KeyWord Plus(R): NETWORKS; **NUMBER**

Research Fronts: 95-4661 002 (NONPARAMETRIC REGRESSION; QUALITATIVE SMOOTHING; BANDWIDTH SELECTION; FREQUENCY FUNCTION; BINARY CHOICE MODEL; GROWTH CURVE ANALYSIS)

95-0572 001 (BOUNDED-ERROR IDENTIFICATION; SIMULTANEOUS **LINEAR** -EQUATIONS; MUSIC ALGORITHM; GLOBAL OPTIMIZATION; PROPAGATION OPERATIONS FOR INTERVALS)

95-2431 001 (NEURAL NETWORKS; FUZZY MODEL-REFERENCE ADAPTIVE-CONTROL; NONLINEAR DISCRETE-TIME MULTIVARIABLE DYNAMICAL-SYSTEMS)

95-4653 001 (EM ALGORITHM; PLAYERS MODELS; MIXTURE LIKELIHOOD APPROACH)

95-5285 001 (KOHONEN SELF- **ORGANIZING** MAP METHOD; UNIVARIATE DISTRIBUTIONS; FAST STATISTICAL MIXTURE ALGORITHM FOR ONLINE HANDWRITING RECOGNITION)

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9/5/2 (Item 2 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
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05469648 Genuine Article#: WB130 Number of References: 11

Title: A PHYSICS-BASED APPROACH TO IDENTIFYING INTERREFLECTION

Author(s): TJAHHADI T; LITWIN D; YANG YH

Corporate Source: UNIV WARWICK,DEPT ENGN/COVENTRY CV4 7AL/W
 MIDLANDS/ENGLAND/

Journal: OPTICA APPLICATA, 1996, V26, N3, P201-216

ISSN: 0078-5466

Language: ENGLISH Document Type: ARTICLE

Geographic Location: ENGLAND

Subfile: SciSearch; CC ENGI--Current Contents, Engineering, Technology &
 Applied Sciences

Journal Subject Category: OPTICS

Abstract: A reflection model which enables an identification of matte, highlight and interreflection legions on objects of inhomogeneous dielectric materials is presented. The model utilises the concept of the dichromatic reflection model and the one-bounce model of mutual reflection. A psi-theta space is introduced to enable the spectral **cluster** of a region to be identified either as a matte hill, a highlight lobe or an interreflection lobe. An analysis of the **boundary** of **clusters** enables the use of the **K - means clustering** algorithm to segment the regions without the need to specify the expected **number** of **clusters** and the initial **cluster centres** .

Identifiers--KeyWords Plus: COLOR

Research Fronts: 95-5150 001 (GLOBAL SHAPE; TRACKING LEVEL SETS; MACHINE VISION; SURFACE ORIENTATION; DEPTH RELIEF; PARAMETRIC MANIFOLDS; FUNDAMENTAL- GROUPS OF ALGEBRAIC-VARIETIES)

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9/5/3 (Item 3 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
 (c) 2002 Inst for Sci Info. All rts. reserv.

05188249 Genuine Article#: VF754 Number of References: 55

Title: MIXED DATA-TYPES AND THE USE OF PATTERN-ANALYSIS ON THE AUSTRALIAN

GROUNDNUT GERMPLASM DATA

Author(s): HARCH BD; BASFORD KE; DELACY IH; LAWRENCE PK; CRUICKSHANK A
Corporate Source: CSIRO, NAT RESOURCES INST, PMB 2/GLEN OSMOND/SA
5064/AUSTRALIA/; AUSTRALIAN TROP FIELD CROPS GENET RESOURCE
CTR/BILOELA/QLD 4715/AUSTRALIA/; UNIV QUEENSLAND, DEPT AGR/BRISBANE/QLD
4072/AUSTRALIA/; J BJELKE PETERSEN RES STN/KINGAROY/QLD 4610/AUSTRALIA/
Journal: GENETIC RESOURCES AND CROP EVOLUTION, 1996, V43, N4 (AUG), P
363-376

ISSN: 0925-9864

Language: ENGLISH Document Type: ARTICLE

Geographic Location: AUSTRALIA

Subfile: SciSearch; CC AGRI--Current Contents, Agriculture, Biology &
Environmental Sciences

Journal Subject Category: PLANT SCIENCES; AGRICULTURE

Abstract: Data in germplasm collections contain a mixture of data types; binary, multistate and **quantitative**. Given the multivariate nature of these data, the pattern analysis methods of **classification** and ordination have been identified as suitable techniques for statistically evaluating the available diversity. The proximity (or resemblance) measure, which is in part the basis of the complementary nature of **classification** and ordination techniques, is often specific to particular data types. The use of a combined resemblance matrix has an advantage over data type specific proximity measures. This measure accommodates the different data types without manipulating them to be of a specific type. Descriptors are **partitioned** into their data types and an appropriate proximity measure is used on each. The separate proximity matrices, after range standardisation, are added as a weighted average and the combined resemblance matrix is then used for **classification** and ordination.

Germplasm evaluation data for 831 accessions of groundnut (*Arachis hypogaea* L.) from the Australian Tropical Field Crops Genetic Resource Centre, Biloela, Queensland were examined. Data for four binary, five ordered multistate and seven **quantitative** descriptors have been documented. The interpretative value of different weightings - equal and unequal weighting of data types to obtain a combined resemblance matrix - was investigated by using principal co-ordinate analysis (ordination) and hierarchical **cluster** analysis.

Equal weighting of data types was found to be more valuable for these data as the results provided a greater insight into the patterns of variability available in the Australian groundnut germplasm collection. The complementary nature of pattern analysis techniques enables plant breeders to identify relevant accessions in relation to the descriptors which distinguish amongst them. This additional information may provide plant breeders with a more defined entry point into the germplasm collection for identifying sources of variability for their plant improvement program, thus improving the utilisation of germplasm resources.

Descriptors--Author Keywords: **CLASSIFICATION** ; GENETIC DIVERSITY ;
GROUNDNUT ; MIXED DATA TYPES ; ORDINATION

Identifiers--KeyWords Plus: AMERICAN OAT GERMPLASMS; **CLUSTER** -ANALYSIS;
COLLECTION; CHARACTERS

Research Fronts: 94-0167 002 (MAXIMUM-ENTROPY RECONSTRUCTION; INCOMPLETE
INFORMATION; QUANTUM THERMODYNAMICS)

94-3138 001 (LARVAL FISH ASSEMBLAGES; NEKTON COMMUNITY; DIVERSITY
PATTERNS)

94-6371 001 (NEURAL NETWORKS; **K - MEANS CLUSTERING** ; PAI-2 IN BREAST
CARCINOMAS; MULTIVARIATE DATA-ANALYSIS)

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9/5/4 (Item 4 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
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04914148 Genuine Article#: UT105 Number of References: 60

Title: A GLOBAL TAXONOMY OF LOOPS IN GLOBULAR-PROTEINS

Author(s): KWASIGROCH JM; CHOMILIER J; MORNON JP

Corporate Source: UNIV PARIS 06, LAB MINERAL CRISTALLOG, CASE 115/F-75252
 PARIS 05//FRANCE//; UNIV PARIS 06, LAB MINERAL CRISTALLOG/F-75252 PARIS
 05//FRANCE//; UNIV PARIS 07, CNRS URA 009/F-75252 PARIS 05//FRANCE/

Journal: JOURNAL OF MOLECULAR BIOLOGY, 1996, V259, N4 (JUN 21), P855-872
 ISSN: 0022-2836

Language: ENGLISH Document Type: ARTICLE

Geographic Location: FRANCE

Subfile: SciSearch; CC LIFE--Current Contents, Life Sciences

Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY

Abstract: A bank of loops from three to eight amino acid residues long has
 been constituted. On the basis of statistical analysis of occurrences
 of conformations and residue, loops could be divided into two parts:

the side residues directly bonded to the secondary structure flanking element, and the inner part. The conformations of the side residues are correlated to the nature of their neighboring flanks, while the inner residues adopt conformations uncorrelated from one residue to the next; thus they are unrelated to the flanks. Two zones in the Ramachandran plot are important: alpha(L) and beta(p). In particular, the high occurrence of alpha(L), mainly occupied by glycine residues, is necessary to induce flexibility and thus allow loops to comply with the geometrical constraints of the flanks. An algorithm of **clustering** has been used to aggregate loops of the same length within families of similar 3D structures. At each position in each **cluster**, sequence and conformational signatures have been deduced if the occurrence of a residue (or a conformation) is higher than an equiprobable distribution over all **clusters**. The result is that some positions favor particular amino acids and conformations, which are typical of a **cluster** although not unique. This is an indication of a relation between structure and sequence in loops. A taxonomy is proposed that **classifies** the various **clusters**. It relies on two terms: the mean distance between the first and last C-alpha in one **cluster** and, perpendicular to this **line**, the distance to the **center** of gravity of the **cluster**. It is noteworthy that the differently populated **clusters** represented in such 2D plots can be separated. Thus, although the conformations of loops in globular proteins could cover a continuum, it has been possible to **cluster** them into a **limited number** of well populated families and superfamilies. This basic feature of protein architecture could be further exploited to better predict their geometry. (C) 1996 Academic Press **Limited**

Descriptors--Author Keywords: LOOPS ; PROTEINS ; STRUCTURAL BIOLOGY ; MOLECULAR MODELING ; TAXONOMY

Identifiers--KeyWords Plus: SECONDARY STRUCTURE; CONFORMATIONAL SEARCH; BETA-HAIRPINS; **CLASSIFICATION**; FEATURES; MOTIFS; IMMUNOGLOBULINS; IDENTIFICATION; ALGORITHM; DIVERSITY

Research Fronts: 94-0083 003 (2.8 ANGSTROM RESOLUTION; REFINED CRYSTAL-STRUCTURE; KNOWLEDGE-BASED PROTEIN MODELING)

94-5082 002 (**LINEAR** PEPTIDE; REVERSE TURN CONFORMATION; REFINED CRYSTAL-STRUCTURE; MIRROR-IMAGE FORMS)

94-1587 001 (GLYCOSIDASE INHIBITORS; CHEMISTRY OF CASTANOSPERMINE; XYLANASE GENE; ACTIVE-SITE RESIDUES; KRAFT PULPS)

94-6371 001 (NEURAL NETWORKS; **K - MEANS CLUSTERING** ; PAI-2 IN BREAST CARCINOMAS; MULTIVARIATE DATA-ANALYSIS)

94-7468 001 (MODEL HELICAL PEPTIDE; RATIONAL DESIGN; N-TERMINAL CAPPING BOX; MOLECULAR-DYNAMICS SIMULATION OF A LEUCINE-ZIPPER MOTIF; STABILIZING INTERACTIONS)

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DIALOG(R) File 34:SciSearch(R) Cited Ref Sci
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04539144 Genuine Article#: TQ671 Number of References: 48

Title: A SELF- ORGANIZING NETWORK FOR HYPERELLIPSOIDAL CLUSTERING (HEC)

Author(s): MAO JC; JAIN AK

Corporate Source: IBM CORP,ALMADEN RES CTR/SAN JOSE//CA/95120; MICHIGAN
 STATE UNIV,DEPT COMP SCI/E LANSING//MI/48824; XEROX CORP,PALO ALTO RES
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Journal: IEEE TRANSACTIONS ON NEURAL NETWORKS, 1996, V7, N1 (JAN), P16-29
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Journal Subject Category: ENGINEERING, ELECTRICAL & ELECTRONIC; COMPUTER
 SCIENCE, ARTIFICIAL INTELLIGENCE; COMPUTER SCIENCE, HARDWARE &
 ARCHITECTURE; COMPUTER SCIENCE, THEORY & METHODS

Abstract: We propose a self- **organizing** network for hyperellipsoidal
clustering (HEC), The HEC network consists of two layers, The first
 layer employs a **number** of principal component analysis subnetworks
 which are used to estimate the hyperellipsoidal shapes of currently
 formed **clusters** , The second layer then performs a competitive
 learning using the **cluster** shape information provided by the first
 layer. The HEC network performs a **partitional clustering** using the
 proposed regularized Mahalanobis distance. This regularized Mahalanobis
 distance is designed to deal with the problems in estimating the
 Mahalanobis distance when the **number** of patterns in a **cluster** is
 less than (ill-posed problem) or not considerably larger than (poorly

posed problem) the dimensionality of the feature space during the **clustering** procedure. This regularized distance also achieves a tradeoff between hyperspherical and hyperellipsoidal **cluster** shapes so as to prevent the HEC network from producing usually large or unusually small **clusters**. The significance level of the Kolmogorov-Smirnov test on the distribution of the Mahalanobis distances of patterns in a **cluster** to the **cluster center** under the Gaussian **cluster** assumption is used as a compactness measure of the **cluster**. The HEC network has been tested on a **number** of artificial data sets and real data sets. We also apply the HEC network to texture segmentation problems. Experiments show that the HEC network leads to a significant improvement in the **clustering** results over the IC-means algorithm with Euclidean distance. Our results on real data sets also indicate that hyperellipsoidal shaped **clusters** are often encountered in practice.

Identifiers--KeyWords Plus: PRINCIPAL-COMPONENT ANALYSIS; NEURAL NETWORKS;

ORGANIZATION; FILTERS

Research Fronts: 94-3009 002 (GABOR REPRESENTATION; IMAGE TEXTURE SEGMENTATION; COMPUTATION OF 2-D WAVELET TRANSFORMS; OPTICAL CORRELATION FILTER FUSION FOR OBJECT DETECTION)

94-3728 002 (ARTIFICIAL NEURAL NETWORKS; COMPETITIVE LEARNING; DYNAMICAL ADAPTIVE RESONANCE ARCHITECTURE)

94-6371 002 (NEURAL NETWORKS; **K - MEANS CLUSTERING** ; PAI-2 IN BREAST CARCINOMAS; MULTIVARIATE DATA-ANALYSIS)

94-0812 001 (NEURAL NETWORKS; HOPFIELD ASSOCIATIVE MEMORY; EXACTLY SOLVABLE MODEL OF UNSUPERVISED LEARNING)

94-2520 001 (FUZZY **CLUSTERING** ; LAYERED NEURAL NETWORKS; SELF-**ORGANIZING** MULTISENSOR SYSTEMS FOR ODOR **CLASSIFICATION**)

94-7285 001 (NEURAL NETWORKS; UNSUPERVISED LEARNING; MU-DEPENDENT ADAPTIVE ALGORITHMS)

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03962111 Genuine Article#: QV555 Number of References: 111

Title: ON THE APPLICATION OF CLUSTER -ANALYSIS TO GROWING-SEASON
PRECIPITATION DATA IN NORTH-AMERICA EAST OF THE ROCKIES

Author(s): GONG XF; RICHMAN MB

Corporate Source: UNIV OKLAHOMA, COOPERAT INST MESOSCALE METEOROL
STUDIES, 100 E BOYD, ROOM 1110/NORMAN//OK/73019

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Journal Subject Category: METEOROLOGY & ATMOSPHERIC SCIENCES

Abstract: **Cluster** analysis ICA) has been applied to geophysical research for over two decades although its popularity has increased dramatically over the past few years. To date, systematic methodological reviews have not appeared in geophysical literature. In this paper, after a review of a large number of applications on **cluster** analysis, an intercomparison of various **cluster** techniques was carried out on a well-studied dataset (7-day precipitation data from 1949 to 1987 in **central** and eastern North America). The **cluster** methods tested were single linkage, complete linkage, average linkage between **groups**, average linkage within a new **group**, Ward's method, **k means**, the nucleated agglomerative method, and the rotated principal component analysis. Three different dissimilarity measures (Euclidean distance, inverse correlation, and theta angle) and three initial **partition** methods were also tested on the hierarchical and nonhierarchical methods, respectively. Twenty-two of the 23 **cluster** algorithms yielded natural **grouping** solutions. Monte Carlo simulations were undertaken to examine the reliability of the duster solutions. This was done by bootstrap resampling from the full dataset with four different sample **sizes**, then testing significance by the t test and the minimum significant difference test.

Results showed that nonhierarchical methods outperformed hierarchical methods. The rotated principal component methods were found to be the most accurate methods, the nucleated agglomerative method was found to be superior to all other hard **cluster** methods, and Ward's method performed best among the hierarchical methods. Single linkage always yielded 'chaining' solutions and, therefore, had poor matches to the input data. Of the three distance measures tested, Euclidean distance appeared to generate slightly more accurate solutions compared with the inverse correlation. The theta angle was quite variable in its accuracy. Tests of the initial **partition** method revealed a sensitivity of **k - means** CA to the selection of the seed points. The spatial patterns of **cluster** analysis applied to the full dataset were found to differ for various CA methods, thereby creating some questions on how to interpret the resulting spatial regionalizations. Several methods were shown to incorrectly place geographically separated portions of the domain into a single **cluster**. The authors termed this type of result 'aggregation error.' It was

found to be most problematic at small sample sizes and more severe for specific distance measures. The choice of clustering technique and dissimilarity measure/initial partition may indeed significantly affect the results of cluster analysis. Cluster analysis accuracy was also found to be linearly to logarithmically related to the sample size. This relationship was statistically significant. Several methods such as Ward's, k means, and the nucleated agglomerative were found to reach a higher level of accuracy at a lower sample size compared with other CA methods tested. The level of accuracy reached by the rotated principal component clustering compared with the other methods tested suggests that application of a hard and nonoverlapping clustering methodology to fuzzy and overlapping geophysical data results in a substantial degradation in the regionalizations presented.

Identifiers--KeyWords Plus: SYNOPTIC CLIMATOLOGICAL CLASSIFICATION ; MIXTURE MODEL TESTS; PRINCIPAL COMPONENTS; UNITED-STATES; CLIMATIC CLASSIFICATION ; STATISTICAL TECHNIQUES; DYNAMIC CLIMATOLOGY; SIMILAR METEOROLOGY; DEFINE PERIODS; POLAR BASIN

Research Fronts: 93-1833 002 (INTERANNUAL TROPICAL OCEAN-ATMOSPHERE INTERACTION; MULTIPLE FLOW REGIMES IN THE NORTHERN-HEMISPHERE WINTER; LOW-FREQUENCY VARIABILITY; SOUTHERN OSCILLATION)

93-3160 001 (ESTUARINE MACROBENTHIC COMMUNITY STRUCTURE; BENTHIC FAUNA; BIOLOGICAL FEATURES OF A DRILLING SITE; SEWAGE POLLUTION; NATURAL DISTURBANCE; CAPITELLA SP-I)

93-3588 001 (IMPACT OF GENOTYPE X ENVIRONMENT INTERACTIONS; MULTIVARIATE CLUSTER ANALYSIS; PLANT-BREEDING TRIALS; GENETIC DIVERSITY)

93-4826 001 (PHYLOGENETIC POSITION; 18S RIBOSOMAL-RNA GENE SEQUENCE; ANAEROBIC THERMOPHILIC BACTERIA)

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DIALOG(R) File 34:SciSearch(R) Cited Ref Sci
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Title: SIMULATION OF MOTION ON THE SKIN .5. EFFECT OF STIMULUS TEMPORAL
FREQUENCY ON THE REPRESENTATION OF MOVING BAR PATTERNS IN PRIMARY
SOMATOSENSORY CORTEX OF MONKEYS

Author(s): GARDNER EP; PALMER CI; HAMALAINEN HA; WARREN S

Corporate Source: NYU, SCH MED, DEPT PHYSIOL & BIOPHYS/NEW YORK//NY/10016;
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Journal: JOURNAL OF NEUROPHYSIOLOGY, 1992, V67, N1 (JAN), P37-63

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Journal Subject Category: NEUROSCIENCES; PHYSIOLOGY

Abstract: 1. To assess the mechanisms used by cortical neurons to sense motion across the skin, we applied pulsatile stimuli to a series of adjacent positions on the glabrous skin of the hand using a computer-controlled OPTACON stimulator. We describe responses of 129 single neurons in primary somatosensory cortex of alert monkeys to a horizontal bar pattern that was displaced proximally or distally in 1.2-mm steps at 10-, 20-, and 40-ms intervals (100, 50, and 25 Hz, respectively). These frequencies span the range in which apparent motion is transformed perceptually in humans from a smooth uninterrupted sweep into a series of distinct pulses that are resolved as separate events. The experiments are thus designed to decipher the neural correlates distinguishing continuous motion from discrete taps.

2. Cortical receptive fields mapped with moving bar patterns spanned 5-24 rows on the tactile array (16.2 ± 5.4 , mean \pm SD). Over 40% of the fields encompassed 18 or more rows (greater-than-or-equal-to 21.6 mm), allowing these neurons to integrate spatial information from an entire image displayed on the OPTACON. Cortical receptive fields are considerably larger than those of mechanoreceptors mapped with the same moving bar patterns (4.2 ± 2.3 rows, mean \pm SD), reflecting convergent inputs in subcortical and cortical relays. Responses were either relatively uniform across the field or strongest at the initial point of entry, depending on the frequency of stimulation. A sharply defined field **center** was absent from most of the cells recorded in this study.

3. Temporal frequency of stimulation appears to be a major determinant of cortical firing patterns. Low-frequency stimuli are more effective in activating cortical neurons, producing more spikes per sweep and greater phase-locking to individual stimuli than do high frequencies. The **total** spike output of cortical neurons is proportional to the pulse interval over the range 10-40 ms, increasing **linearly** by an average of 5.9 spikes/10-ms increase in pulse period. Peak firing rates and modulation amplitude are also highest when pulses are presented at long intervals, falling significantly as the stimulation frequency rises. The reduction in firing at high pulse rates is apparently due to **central** mechanisms, as both rapidly adapting and Pacinian corpuscle afferents display nearly constant spike outputs and uniform sensitivity within the field when tested with identical bar patterns. **Central** networks thus behave as low-pass filters, reducing cortical responses to rapidly applied sequential stimuli.

4. The **total** spike output of cortical neurons during a sweep is considerably larger than that of mechanoreceptors at all frequencies tested. **Total** spikes per sweep in the cortex average 9.4 at 100 Hz

and rise to 27.3 at 2 Hz. By contrast, in the periphery, total output rises from 3.6 to 4.4 spikes/sweep over this range. The increased cortical responsiveness is due to both larger receptive field size as well as an increase in gain at low frequencies.

5. Average firing rates of cortical neurons do not directly represent the temporal frequency of stimulation by a one-for-one spike code, as in the periphery. Cortical firing rates rise more slowly than the stimulation frequency over the range 25-100 Hz, increasing by an average of only 0.21 spikes/s per 1-Hz increase in pulse frequency. Average firing rates are higher than the stimulus frequency when pulses are stepped across the field at 25 Hz, with gain ranging from 1.3 to 2.9 spikes/pulse. Mean rates are close to the input frequency at 50 Hz and drop to approximately one-half the input frequency at 100 Hz.

6. These effects of temporal frequency appear to be mediated by two central mechanisms, amplification and inhibition. We propose that amplification results from convergent inputs that prolong the spike trains evoked by individual pulses, leading to merger of successive responses when stimuli are applied at intervals < 40 ms. The increased response duration may result from disparities of conduction velocities of sensory afferents and in central pathways, leading to asynchronous excitatory inputs. Recurrent intracortical networks, or intrinsic bursting properties, may also prolong evoked responses of cortical neurons. At high frequencies, the preceding stimulus appears to reduce the responsiveness of cortical neurons to subsequent stimuli with a time course resembling that of in-field inhibition. Inhibition damps fluctuations in firing patterns, thus smoothing the spike train and eliminating representation of individual pulses as separate events.

7. The spike trains evoked in the cortex by the moving bar patterns are more variable, longer in duration, and less tightly phase locked to the stimulus pulses than are the mechanoreceptor responses evoked by the same stimuli. Cortical firing patterns show considerable diversity and differ in their degree of phase-locking to individual OPTACON pulses, their duration and probability of firing, and their average firing rates. We have used k - means cluster analysis to subdivide the population into three groups (phasic, burst, and modulated neurons) on the basis of the modulation amplitude of the spike trains.

8. The temporal frequency of stimulation appears to be signaled by the internal pattern of firing within the spike train rather than by average firing rates. Phasic and burst neurons are apparently well suited to represent temporal frequency by oscillation of their spike trains; they signal the moment of skin contact by the probes as a synchronous burst of impulses. By contrast, modulated neurons show the weakest stimulus-linked fluctuations in firing patterns over the entire range tested. Their activity appears relatively independent of stimulation rate; these cells may signal other stimulus features. Phasic neurons accurately depict the timing of stimulus pulses by their instantaneous firing rates; peaks are observed in their interspike interval histogram at intervals corresponding to the stimulation period. The instantaneous firing rates of burst and modulated neurons appear independent of frequency; peak activity occurs in the same time bin regardless of frequency. The modal interval occurs at 1-3 ms in burst neurons and at approximately 10 ms for modulated neurons.

9. Our data suggest that perception of punctate or moving sensations may be related to the frequency modulation of cortical spike trains. Low-frequency stimuli feel pulsatile or punctate; their cortical responses display strong oscillations in excitability between bursts of impulses and silent intervals, the timing of which is directly linked to the individual stimulus pulses. The strong spike bursts of phasic and burst neurons may provide the physiological substrate for the distinct sensations evoked at low pulse rates. High-frequency stimuli appear to move smoothly across the skin. They

are signaled by continuous firing at relatively steady rates. Central neuronal processing attenuates the bursts evoked by sequential pulses and smooths out variations in firing during the period of stimulation, resulting in spike trains similar to those evoked by stroking the skin.

Identifiers--KeyWords Plus: MACAQUE VISUAL-CORTEX; CAT STRIATE CORTEX; ADAPTING MECHANORECEPTIVE AFFERENTS; CORTICAL RECEPTIVE-FIELDS; MULTIPLE-POINT STIMULI; TACTILE DISCRIMINATION; AWAKE MONKEYS; SIMPLE CELLS; PSYCHOPHYSICAL MEASUREMENTS; CUTANEOUS MECHANORECEPTORS
Research Fronts: 90-2991 002 (PRIMATE HAND; VIBRATION SENSITIVITY; TACTILE SENSORY THRESHOLDS; SOMATOSENSORY CORTEX; VIBROTACTILE STIMULI; MECHANOSENSITIVE NERVE-FIBERS; FINGER MOVEMENT)

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9/5/8 (Item 1 from file: 144)

DIALOG(R) File 144:Pascal

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14862413 PASCAL No.: 01-0008588

Accurate recasting of parameter estimation algorithms using Sufficient statistics for efficient parallel speed-up: Demonstrated for center -based data clustering algorithms

Principles of data mining and knowledge discovery : Lyon, 13-16 September 2000

BIN ZHANG; MEICHUN HSU; FORMAN George

ZIGHED Djamel A, ed; KOMOROWSKI Jan, ed; ZYTKOW Jan, ed

Data Mining Solutions Department, Hewlett-Packard Laboratories, United States

PKDD 2000 : European conference on principles and practice of knowledge discovery in databases, 4 (Lyon FRA) 2000-09-13

Journal: Lecture notes in computer science, 2000, 1910 243-254

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Document Type: P (Serial); C (Conference Proceedings) ; A (Analytic)

Country of Publication: Germany; United States

Language: English

Fueled by advances in computer technology and online business, data collection is rapidly accelerating, as well as the importance of its analysis-data mining. Increasing database **sizes** strain the scalability of many data mining algorithms. Data **clustering** is one of the fundamental techniques in data mining solutions. The many **clustering** algorithms developed face new challenges with growing data sets. Algorithms with quadratic or higher computational complexity, such as agglomerative algorithms, drop out quickly. More efficient algorithms, such as **K - Means** EM with **linear** cost per iteration, still need work to scale up to large data sets. This paper shows that many parameter estimation algorithms, including **K - Means**, K-Harmonic Means and EM, can be recast without approximation in terms of Sufficient Statistics, yielding an superior speed-up efficiency. Estimates using today's workstations and local area network technology suggest efficient speed-up to several hundred computers, leading to effective scale-up for **clustering** hundreds of gigabytes of data. Implementation of parallel **clustering** has been done in a parallel programming language, ZPL. Experimental results show above 90% utilization.

English Descriptors: Learning algorithm; Parallel algorithm; EM algorithm;
 Algorithm complexity; Algorithm performance; Information processing

French Descriptors: Algorithme apprentissage; Algorithme parallele;
 Algorithme EM; Complexite algorithme; Performance algorithme; Traitement
 information

Classification Codes: 001D02C02

9/5/9 (Item 2 from file: 144)

DIALOG(R)File 144:Pascal

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14826283 PASCAL No.: 00-0509318

Extending K - means clustering to first-order representations

ILP 2000 : inductive logic programming : London, 24-27 July 2000

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CUSSENS James, ed; FRISCH Alan, ed

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International conference on inductive logic programming, 10 (London GBR)
2000-07-24

Journal: Lecture notes in computer science, 2000, 1866 112-129

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354000090070720070

No. of Refs.: 24 ref.

Document Type: P (Serial); C (Conference Proceedings) ; A (Analytic)

Country of Publication: Germany; United States

Language: English

In this paper, we present an in-depth evaluation of two approaches of extending **k - means clustering** to work on first-order representations. The first-approach, k-medoids, selects its **cluster center** from the given set of instances, and is thus **limited** in its choice of **centers**. The second approach, **k - prototypes**, uses a heuristic prototype construction algorithm that is capable of generating new **centers**. The two approaches are empirically evaluated on a standard benchmark problem with respect to **clustering** quality and convergence. Results show that in this case indeed the k-medoids approach is a viable and fast alternative to existing agglomerative or top-down **clustering** approaches even for a small-scale dataset, while **k - prototypes** exhibited a **number** of deficiencies.

English Descriptors: Heuristic programming; Logical programming; Algorithm performance; Knowledge representation; Knowledge acquisition; Inductive reasoning

French Descriptors: Programmation heuristique; Programmation logique; Performance algorithmique; Representation connaissances; Acquisition connaissances; Raisonnement inductif

Classification Codes: 001D02C02

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9/5/10 (Item 3 from file: 144)

DIALOG(R)File 144:Pascal

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14327013 PASCAL No.: 99-0535262

Regional estimation of design summer flood discharges in small catchments of northern Slovakia

Hydrological extremes : understanding, predicting, mitigating :

Birmingham, 18-30 July 1999

KOHNNOVA S; SZOLGAY J

GOTTSCHALK Lars, ed; OLIVRY Jean-Claude, ed; REED Duncan, ed; ROSBJERG Dan, ed

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International Union of Geodesy and Geophysics, Bruxelles, Belgium.
Hydrological extremes. International symposium (Birmingham GBR)
1999-07-18

Journal: IAHS-AISH publication, 1999 (255) 265-268
ISBN: 1-901502-85-6 ISSN: 0144-7815 Availability: INIST-8967;
354000080041120320
Illus.: Tables No. of Refs.: 5 ref.
Document Type: P (Serial); C (Conference Proceedings) ; A (Analytic)
Country of Publication: United Kingdom
Language: English

Design floods in ungauged small and mid-sized basins in Slovakia are usually computed from simple regional flood formulae. In this paper other regional approaches have been tested in the flysh region in northern Slovakia. Sub-regions were constructed using hydrologic reasoning based on basin properties and **K - means clustering** of 17 physiographic basin characteristics and annual summer flood statistics from 43 basins. Regional formulae for the computation of the mean annual summer flood and its standard deviation were derived. Comparison of flood quantiles computed from data and from the formulae showed similar results for all tested methods. The practical applicability of the derived formulae is **limited** and possible reasons for this are discussed.

English Descriptors: Slovakia; drainage basins; floods; statistics;
standard deviation; river discharge; statistical analysis
Broad Descriptors: **Central** Europe; Europe; Europe **Centrale** ; Europe;
Europa **central** ; Europa

French Descriptors: Slovaquie; Bassin versant; Crue; Statistique; Ecart
type; Debit riviere; Analyse statistique

Classification Codes: 226A01; 226B02; 001E01N01; 001E01O02
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9/5/11 (Item 4 from file: 144)
DIALOG(R)File 144:Pascal
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13849933 PASCAL No.: 99-0026578
Segmentation of textured images based on multiple fractal feature combinations
Visual information processing VII : Orlando FL, 13-14 April 1998
CHARALAMPIDIS D; KASPARIS T; ROLLAND J
PARK Stephen K, ed; JUDAY Ricahrd D, ed
Department of Electrical and Computer Engineering, University of Central Florida, Orlando, FL 32816, United States; Center for Research and Education in Optics and Lasers, University of Central Florida, Orlando, FL 32816, United States
International Society for Optical Engineering, Bellingham WA, United States.
Visual information processing. Conference, 7 (Orlando FL USA) 1998-04-13
Journal: SPIE proceedings series, 1998, 3387 25-35
ISBN: 0-8194-2836-1 ISSN: 1017-2653 Availability: INIST-21760;
354000070129000030
No. of Refs.: 10 ref.
Document Type: P (Serial); C (Conference Proceedings) ; A (Analytic)
Country of Publication: United States
Language: English
This paper describes an approach to segmentation of textured grayscale images using a technique based on image filtering and the fractal dimension (FD). Twelve FD features are computed based on twelve filtered versions of the original image using directional Gabor filters. Features are computed in a window and mapped to the **central** pixel of this window. An iterative **K - means** -based algorithm which includes feature smoothing and takes into consideration the **boundaries** between textures is used to segment an image into a desired **number** of **clusters** . This approach is partially supervised since the **number** of **clusters** has to be predefined. The

fractal features are compared to Gabor energy features and the iterative K - means algorithm is compared to the original K - means clustering approach. The performance of segmentation for noisy images is also studied.

English Descriptors: Segmentation; Image processing; Texture analysis; Grey level image; Fractal dimension; Iterative program; Noisy image; Identification; Frequency characteristic; Experimental result; Multiplicative noise

French Descriptors: Segmentation; Traitement image; Analyse texture; Image niveau gris; Dimension fractale; Programme iteratif; Image bruitée; Identification; Caractéristique fréquentielle; Resultat experimental; Bruit multiplicatif; Filtre Gabor

Classification Codes: 001D04A05C

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9/5/12 (Item 5 from file: 144)
DIALOG(R)File 144:Pascal
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12114466 PASCAL No.: 95-0344863

On the application of cluster analysis to growing season precipitation data in North America east of the Rockies

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Univ. Oklahoma, cooperative inst. mesoscale meteorological studies,
Norman OK 73019-0628, USA

Journal: Journal of climate, 1995, 8 (4) 897-931

ISSN: 0894-8755 Availability: INIST-9644B; 354000056970660180

No. of Refs.: 2 p. 1/4

Document Type: P (Serial) ; A (Analytic)

Country of Publication: USA

Language: English

Cluster analysis (CA) has been applied to geophysical research for over two decades although its popularity has increased dramatically over the past few years. To date, systematic methodological reviews have not appeared in geophysical literature. In this paper, after a review of a large number of applications on **cluster** analysis, an intercomparison of various **cluster** techniques was carried out on a well-studied dataset (7-day precipitation data from 1949 to 1987 in **central** and eastern North America). The **cluster** methods tested were single linkage, complete linkage, average linkage between **groups**, average linkage within a new **group**, Ward's method, **k means**, the nucleated agglomerative method, and the rotated principal component analysis. Three different dissimilarity measures (Euclidean distance, inverse correlation, and theta angle) and three initial **partition** methods were also tested on the hierarchical and nonhierarchical methods, respectively. Twenty-two of the 23 **cluster** algorithms yielded natural **grouping** solutions. Monte Carlo simulations were undertaken to examine the reliability of the **cluster** solutions. This was done by bootstrap sampling from the full dataset with four different sample **sizes**, then testing significance by the t test and the minimum significant difference test. Results showed that nonhierarchical methods outperformed hierarchical methods. The rotated principal component methods were found to be the most accurate methods, the nucleated agglomerative method was found to be superior to all other hard **cluster** methods, and Ward's method performed best among the hierarchical methods. Single linkage always yielded "chaining" solutions and, therefore, had poor matches to the input data. Of the three distance measures tested, Euclidean distance appeared to generate slightly more accurate solutions compared with the inverse correlation. The theta angle was quite variable in its accuracy. Tests of the initial **partition** method revealed a sensitivity of k-

English Descriptors: Data analysis; **Cluster** analysis; Atmospheric precipitation; Theoretical study; North America
Broad Descriptors: America; Amerique; America

French Descriptors: Analyse donnee; Analyse amas; Precipitation
atmospherique; Etude theorique; Amerique du Nord

Classification Codes: 001E02F

9/5/13 (Item 1 from file: 6)

DIALOG(R) File 6:NTIS

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1987274 NTIS Accession Number: PB97-122774

Application of Cluster Analysis to Growing Season Precipitation Data in North America East of the Rockies

(Journal article)

Gong, X. ; Richman, M. B.

Oklahoma Univ., Norman. Cooperative Inst. for Mesoscale Meteorological Studies.

Corp. Source Codes: 006843003

Sponsor: Environmental Protection Agency, Research Triangle Park, NC.
National Exposure Research Lab.

Report No.: EPA/600/A-96/089

cApr 95 46p

Languages: English Document Type: Journal article

Journal Announcement: GRAI9705

Pub. in Jnl. of Climate, v8 n4 Apr 95. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. National Exposure Research Lab.

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NTIS Prices: PC A04/MF A01

Country of Publication: United States

Contract No.: EPA-R-816318-02-0

Cluster analysis (CA) has been applied to geophysical research for over two decades although its popularity has increased dramatically over the past few years. To date, systematic methodological reviews have not appeared in geophysical literature. In this paper, after a review of a large number of applications on **cluster** analysis, an intercomparison of various **cluster** techniques was carried out on a well-studied dataset (7-day precipitation data from 1949 to 1987 in **central** and eastern North America). The **cluster** methods tested were single linkage, complete linkage, average linkage between **groups**, average linkage within a new **group**, Ward's method, **k means**, the nucleated agglomerative method, and the rotated principal component analysis. Three different dissimilarity measure (Euclidean distance, inverse correlation, and theta angle) and three initial **partition** methods were also tested on the hierarchical and nonhierarchical methods, respectively. Twenty-two of the 23 **cluster** algorithms yielded natural **grouping** solutions. Monte Carlo simulations were undertaken to examine the reliability of the **cluster** solutions. This was done by bootstrap resampling from the full dataset with four different sample **sizes**, then testing significance by the t test and the minimum significant difference test.

Descriptors: **Cluster** analysis; *Precipitation(Meteorology); *Geophysics
; Algorithms; Monte Carlo Method; Reprints

Identifiers: NTISEPAORD

Section Headings: 55E (Atmospheric Sciences--Physical Meteorology); 68A (Environmental Pollution and Control--Air Pollution and Control)

9/5/14 (Item 2 from file: 6)

DIALOG(R) File 6:NTIS

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1772321 NTIS Accession Number: AD-A271 691/8

Some Extensions of the K - Means Algorithm for Image Segmentation and Pattern Classification

(Memorandum rept)

Marroquin, J. L. ; Girosi, F.

Massachusetts Inst. of Tech., Cambridge. Artificial Intelligence Lab.

Corp. Source Codes: 001450241; 407483

Report No.: AI-M-1390

Jan 93 22p

Languages: English

Journal Announcement: GRAI9404

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NTIS Prices: PC A03/MF A01

Country of Publication: United States

Contract No.: N00014-91-J-1270; N00014-92-J-1879

In this paper we present some extensions to the **k - means** algorithm for vector quantization that permit its efficient use in image segmentation and pattern **classification** tasks. It is shown that by introducing state variables that correspond to certain statistics of the dynamic behavior of the algorithm, it is possible to find the representative **centers** of the lower dimensional manifolds that define the **boundaries** between classes, for clouds of multi-dimensional, multi-class data; this permits one, for example, to find class **boundaries** directly from sparse data (e.g., in image segmentation tasks) or to efficiently place **centers** for pattern **classification** (e.g., with local Gaussian **classifiers**). The same state variables can be used to define algorithms for determining adaptively the optimal **number** of **centers** for clouds of data with space-varying density. Some examples of the application of these extensions are also given. **K - Means**, Vector quantization, **Classification**, **Clustering**, Segmentation.

Descriptors: Algorithms; *Segmented; *Image processing; **Boundaries**; **Classification**; **Clustering**; Density; Dynamics; Quantization; Statistics; Variables

Identifiers: *Pattern recognition; NTISDODXA; NTISNSFG

Section Headings: 62F (Computers, Control, and Information Theory--Pattern Recognition and Image Processing)

9/5/15 (Item 1 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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03067984 JICST ACCESSION NUMBER: 96A0241873 FILE SEGMENT: JICST-E

Diagnosis Support System for Frontal Lobe Atrophy.

SATO KAZUHITO (1); TAKAHASHI AKINORI (1); TAKIMORI TOORU (1); NARITA YUICHI (1); NAMURA IKURO (2)

(1) Akita Univ., Min. Coll.; (2) Akita Univ., Health Care Center

Iryo Johogaku(Japan Journal of Medical Informatics), 1995, VOL.15,NO.4,

PAGE.207-216, FIG.11, TBL.2, REF.13

JOURNAL NUMBER: Y0510AAE ISSN NO: 0289-8055

UNIVERSAL DECIMAL CLASSIFICATION: 616.8-07

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

ABSTRACT: The **K - means** and fuzzy **K - means** methods were applied to evaluate brain atrophy, especially in the frontal lobe. The technique used for a **quantitative** image diagnosis involved two steps: 1) **limiting** the brain area to exclude the extracerebral structure, i.e., skin, bone and fat tissue; 2) segmentation of the brain area by fuzzy **clustering**, in which the transitional zone between CSF and the white matter was treated as one independent area, consequently corresponding to the gray matter. Preliminary results from patient data show that this system works effectively and gives useful indications for decision-making in clinical practice. (author abst.)

DESCRIPTORS: atrophy(disease); frontal lobe; NMR imaging; human(primates)

BROADER DESCRIPTORS: disease; cerebral hemisphere; telencephalon;

prosencephalon; brain; **central** nervous system; nervous system; image
technology; technology; diagnostic imaging; diagnosis
CLASSIFICATION CODE(S): GN02000H

9/5/16 (Item 2 from file: 94)
DIALOG(R)File 94:JICST-EPlus
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01437904 JICST ACCESSION NUMBER: 92A0057201 FILE SEGMENT: JICST-E

**Piecewise linear approximation of discontinuous contour images by
utilizing clustering method.**

WATANABE TAKASHI (1); SUZUKI KAZUYA (1)

(1) Iwate Univ., Faculty of Engineering

Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report
(Institute of Electronics, Information and Communication Engineers),
1991, VOL.91,NO.317(PRU91 78-87), PAGE.17-24, FIG.7, TBL.1, REF.8

JOURNAL NUMBER: S0532BBG

UNIVERSAL DECIMAL CLASSIFICATION: 681.3:621.397.3

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

ABSTRACT: A new piecewise **linear** approximation method for discontinuous
contour pictures is presented. The method is based on a **clustering**
procedure and its **clustering** criterion is defined on **line** segments
that correspond to gravity **centers** of **clusters** in the case of the
k - means method. Two **clustering** types are adopted, which are hard
clustering and fuzzy one. The suitable **number** of segments can be
determined adaptively and accelerating modifications are also added.
The experimental results demonstrate the validity and the effectiveness
of the proposed method. (author abst.)

DESCRIPTORS: **clustering** ; broken **line** approximation; evaluation function
; discontinuity; image reproduction; contour approximation

BROADER DESCRIPTORS: modification; approximation method;
function(mathematics); mapping(mathematics); property; image processing
; information processing; treatment; regeneration

CLASSIFICATION CODE(S): JE04000X

9/5/17 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC
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7209907 INSPEC Abstract Number: B2002-04-6135-167, C2002-04-5260B-227

**Title: Color image segmentation based on clustering using color space
distance and neighborhood relation among pixels**

Author(s): HwaJeong Lee; Hwangsoo Kim

Journal: Journal of KISS: Software and Applications vol.27, no.10
p.1038-45

Publisher: Korea Inf. Sci. Soc,

Publication Date: Oct. 2000 Country of Publication: South Korea

CODEN: CKNBV ISSN: 1229-6848

SICI: 1229-6848(200010)27:10L.1038:CISB;1-G

Material Identity Number: 0848-2002-004

Language: Korean Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: Proposes a color image segmentation method based on
gravitational **clustering** using a neighborhood relation in the spatial
domain and distance information in the RGB space among the pixels. A pixel
has a color value (R,G,B) in the color space and location information (x,y)
in the spatial domain. Most segmentation algorithms based on **clustering**
perform their procedure using the color space distance after pixels have
been mapped from the spatial domain to the color space, ignoring their
neighborhood relation, but we use both the distance in the color space and
the neighborhood relation in the spatial domain. We use gravitational
clustering , imitating the law of gravity, as our **clustering** algorithm.
This gravitational algorithm automatically determines the **number** and

center values of the **clusters** . We compare our results with another **clustering** algorithm (**K - means**). It is shown that the proposed method is efficient in finding exact **boundaries** . (16 Refs)

Subfile: B C

Descriptors: **edge** detection; gravity; image colour analysis; image segmentation; pattern **clustering**

Identifiers: color image segmentation method; gravitational **clustering** ; color space distance; pixel neighborhood relation; spatial domain; RGB space; pixel color value; pixel location information; **cluster number** determination; **cluster center** values; **K - means clustering** algorithm; exact **boundary** determination

Class Codes: B6135 (Optical, image and video signal processing); C5260B (Computer vision and image processing techniques)

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9/5/18 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

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6453554 INSPEC Abstract Number: B2000-02-6320E-005, C2000-02-7410F-054

Title: An novel on- line learning structure variable radial basis function nets with application on passive sonar target classification

Author(s): Song Ai-Guo

Author Affiliation: Dept. of Instrum. Sci., Southeast Univ., Nanjing, China

Journal: Acta Electronica Sinica vol.27, no.10 p.65-9

Publisher: Chinese Inst. Electron,

Publication Date: Oct. 1999 Country of Publication: China

CODEN: TTHPAG ISSN: 0372-2112

SICI: 0372-2112(199910)27:10L:65:NLLS;1-E

Material Identity Number: B902-1999-013

Language: Chinese Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: In this paper, a novel structure variable radial basis function networks (SVRBF networks) is proposed, whose hidden layer nodes can be modified on- **line** , and Evolutionary Computation (EC) is used to optimally determine and modify the **total number** of hidden layer nodes and their core function's **center** and width of the SVRBF networks. The SVRBF networks are then used for passive sonar target **classification** and learning on- **line** , and the result of experiment shows that the EC based SVRBF networks have better generalization performance than **k - means** based RBF nets, and are effective in solving the problem of forgetting the old patterns in on- **line** learning which exists in passive sonar target recognition by using conventional neural networks. (9 Refs)

Subfile: B C

Descriptors: evolutionary computation; learning (artificial intelligence) ; radial basis function networks; signal **classification** ; sonar target recognition; telecommunication computing

Identifiers: on- **line** learning; structure variable radial basis function network; evolutionary computation; passive sonar target **classification** ; neural network

Class Codes: B6320E (Sonar and acoustic radar); B0260 (Optimisation techniques); C7410F (Communications computing); C1230D (Neural nets); C1230L (Learning in AI); C1260S (Signal processing theory); C1180 (Optimisation techniques)

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9/5/19 (Item 3 from file: 2)

DIALOG(R)File 2:INSPEC

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5767900 INSPEC Abstract Number: C9801-1250-143

Title: Clustering via concave minimization

Author(s): Bradley, P.S.; Mangasarian, O.L.; Street, W.N.

Author Affiliation: Dept. of Comput. Sci., Wisconsin Univ., Madison, WI, USA

Conference Title: Advances in Neural Information Processing Systems 9.
Proceedings of the 1996 Conference p.368-74

Editor(s): Mozer, M.C.; Jordan, M.I.; Petsche, T.

Publisher: MIT Press, London, UK

Publication Date: 1997 Country of Publication: UK xvi+1098 pp.

ISBN: 0 262 10065 7 Material Identity Number: XX97-02852

Conference Title: Advances in Neural Information Processing Systems 9.
Proceedings of the 1996 Conference

Conference Date: 2-5 Dec. 1996 Conference Location: Denver, CO, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Applications (A); Theoretical (T); Experimental (X)

Abstract: The problem of assigning m points in the n -dimensional real space $R/\sup n/$ to k **clusters** is formulated as that of determining k **centers** in $R/\sup n/$ such that the sum of distances of each point to the nearest **center** is minimized. If a polyhedral distance is used, the problem can be formulated as that of minimizing a piecewise- **linear** concave function on a polyhedral set which is shown to be equivalent to a bilinear program: minimizing a bilinear function on a polyhedral set. A fast finite k - **median** algorithm consisting of solving few **linear** programs in closed form leads to a stationary point of the bilinear program. Computational testing on a **number** of real-world databases was carried out. On the Wisconsin Diagnostic Breast Cancer database, k - **median** training set correctness was comparable to that of the k - **mean** algorithm, however its testing set correctness was better. Additionally, on the Wisconsin Prognostic Breast Cancer database, distinct and clinically important survival curves were extracted by the k - **median** algorithm, whereas the K - **mean** algorithm failed to obtain such distinct survival curves for the same database. (18 Refs)

Subfile: C

Descriptors: database management systems; learning (artificial intelligence); **linear** programming; medical diagnostic computing; minimisation; neural nets; nonlinear programming; pattern **classification**

Identifiers: concave minimization; **clustering**; polyhedral distance; bilinear programming; k - **median** algorithm; Wisconsin Diagnostic Breast Cancer database; Wisconsin Prognostic Breast Cancer database; k - **mean** algorithm; training set; data mining

Class Codes: C1250 (Pattern recognition); C7330 (Biology and medical computing); C6160 (Database management systems (DBMS)); C1230D (Neural nets); C5290 (Neural computing techniques); C1180 (Optimisation techniques)

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9/5/20 (Item 4 from file: 2)

DIALOG(R)File 2:INSPEC

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5181041 INSPEC Abstract Number: B9603-6140C-582, C9603-1250-218

Title: A self-organizing **network** for hyperellipsoidal clustering (HEC)

Author(s): Jianchang Mao; Jain, A.K.

Author Affiliation: IBM Almaden Res. Center, San Jose, CA, USA

Journal: IEEE Transactions on Neural Networks vol.7, no.1 p.16-29

Publisher: IEEE,

Publication Date: Jan. 1996 Country of Publication: USA

CODEN: ITNNEP ISSN: 1045-9227

SICI: 1045-9227(199601)7:1L.16:SONH;1-7

Material Identity Number: N784-96001

U.S. Copyright Clearance Center Code: 1045-9227/96/\$05.00

Document Number: S1045-9227(96)00180-4

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: We propose a self-organizing **network** for hyperellipsoidal **clustering** (HEC). It consists of two layers. The first employs a **number** of principal component analysis subnetworks to estimate the hyperellipsoidal shapes of currently formed **clusters**. The second performs competitive learning using the **cluster** shape information from the first. The network performs **partitional clustering** using the proposed regularized Mahalanobis distance, which was designed to deal with the

problems in estimating the Mahalanobis distance when the number of patterns in a cluster is less than or not considerably larger than the dimensionality of the feature space during clustering. This distance also achieves a tradeoff between hyperspherical and hyperellipsoidal cluster shapes so as to prevent the HEC network from producing unusually large or small clusters. The significance level of the Kolmogorov-Smirnov test on the distribution of the Mahalanobis distances of patterns in a cluster to the cluster center under the Gaussian cluster assumption is used as a compactness measure. The HEC network has been tested on a number of artificial data sets and real data sets. We also apply the HEC network to texture segmentation problems. Experiments show that the HEC network leads to a significant improvement in the clustering results over the K-means algorithm with Euclidean distance. Our results on real data sets also indicate that hyperellipsoidal shaped clusters are often encountered in practice. (47 Refs)

Subfile: B C

Descriptors: image segmentation; image texture; multilayer perceptrons; pattern recognition; self-organising feature maps; unsupervised learning

Identifiers: self-organizing network; hyperellipsoidal clustering; principal component analysis subnetworks; cluster hyperellipsoidal shape estimation; competitive learning; partitional clustering; regularized Mahalanobis distance; hyperspherical cluster shapes; Kolmogorov-Smirnov test; Gaussian cluster assumption; compactness measure; texture segmentation; K-means algorithm; Euclidean distance

Class Codes: B6140C (Optical information, image and video signal processing); C1250 (Pattern recognition); C1230D (Neural nets); C1240 (Adaptive system theory)

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9/5/21 (Item 5 from file: 2)

DIALOG(R) File 2:INSPEC

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4992328 INSPEC Abstract Number: B9508-6130-044, C9508-1250-440

Title: A new method for initializing radial basis function classifiers

Author(s): Kaylani, T.; Dasgupta, S.

Author Affiliation: Dept. of Electr. Eng., Temple Univ., Philadelphia, PA, USA

Conference Title: 1994 IEEE International Conference on Systems, Man, and Cybernetics. Humans, Information and Technology (Cat. No.94CH3571-5)

Part vol. 3 p.2584-7 vol. 3

Publisher: IEEE, New York, NY, USA

Publication Date: 1994 Country of Publication: USA 3 vol. iii+2849 pp.

ISBN: 0 7803 2129 4

U.S. Copyright Clearance Center Code: 0 7803 2129 4/94/\$3.00

Conference Title: Proceedings of IEEE International Conference on Systems, Man and Cybernetics

Conference Date: 2-5 Oct. 1994 Conference Location: San Antonio, TX, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P); Theoretical (T)

Abstract: Introduces a new approach for the selection of RBF kernel centers and their effective widths. RBF centers are divided into two sets and are placed strategically to maximize the classification capability of RBF networks. The first set is located near class boundaries at locations specified by a set of boundary-preserving patterns. The second set of RBF centers is represented by cluster centers using the k-means clustering algorithm. The widths of RBF kernels in both sets are selected so as to minimize the amount of overlap between different class regions. The merits of the authors' approach are validated using a speaker-independent vowel recognition problem. (5 Refs)

Subfile: B C

Descriptors: feedforward neural nets; pattern classification; speech recognition

Identifiers: initialization; radial basis function classifiers; kernel centers; classification capability; class boundaries; boundary

-preserving patterns; **k means** clustering algorithm;
speaker-independent vowel recognition problem

Class Codes: B6130 (Speech analysis and processing techniques); C1250 (Pattern recognition); C1230D (Neural nets); C5290 (Neural computing techniques)

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9/5/22 (Item 6 from file: 2)

DIALOG(R) File 2:INSPEC

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4483794 INSPEC Abstract Number: C9311-1250C-001

Title: Comparing multi-layer perceptrons and radial basis functions networks in speaker recognition

Author(s): Mak, M.W.; Allen, W.G.; Sexton, G.G.

Author Affiliation: Dept. of Electr., Electron. Eng. & Phys., Northumbria Univ., Newcastle, UK

Journal: Journal of Microcomputer Applications vol.16, no.2 p. 147-59

Publication Date: April 1993 Country of Publication: UK

CODEN: JMIADO ISSN: 0745-7138

U.S. Copyright Clearance Center Code: 0745-7138/93/0201417+13\$08.00/0

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: The authors have compared the performance of multi-layer perceptrons networks (MLP) and radial basis function networks (RBF) in the task of speaker identification. The experiments are carried out on 400 utterances (10 digits, in English) from 10 speakers. LPC-derived cepstrum coefficients are used as the speaker specific features. The results show that the MLP networks are superior in memory usage and **classification** time. Nevertheless, they suffer from long training time and the **classification** performance is poorer than that of the RBF networks. The function **centres** of the RBF networks are either selected randomly from the training data or located by a **K - mean** algorithm. The authors find that **K - mean clustering** is an effective method in locating the function **centres**. They also find that by guaranteeing every speaker has similar **number** of function **centres**, the recognition performance can be improved further. (30 Refs)

Subfile: C

Descriptors: feedforward neural nets; **linear** predictive coding; speech recognition

Identifiers: multilayer perceptrons; radial basis functions networks; speaker recognition; speaker identification; LPC-derived cepstrum coefficients; speaker specific features; memory usage; **classification** time; **classification** performance; **K - mean** algorithm

Class Codes: C1250C (Speech recognition); C1230D (Neural nets); C1240 (Adaptive system theory)

9/5/23 (Item 7 from file: 2)

DIALOG(R) File 2:INSPEC

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04257863 INSPEC Abstract Number: C9211-1250-148

Title: Polyline approximation of discontinuous contour images based on clustering procedure

Author(s): Watanabe, T.; Suzuki, K.; Tanba, S.; Yokoyama, R.

Author Affiliation: Fac. of Eng., Iwate Univ., Morioka, Japan

Journal: Transactions of the Institute of Electronics, Information and Communication Engineers D-II vol.J75D-II, no.6 p.1067-74

Publication Date: June 1992 Country of Publication: Japan

CODEN: DTGDE7

Language: Japanese Document Type: Journal Paper (JP)

Treatment: Theoretical (T); Experimental (X)

Abstract: A new polyline approximation method for discontinuous contour pictures is proposed. The method is based on a **clustering** procedure and its **clustering** criterion is defined on **line** segments that correspond to

gravity centers of clusters in the case of the k - means method. Two clustering types are adopted, which are hard clustering and fuzzy clustering . The suitable number of segments can be determined adaptively and accelerating modifications are also added. The experimental results demonstrate the validity and the effectiveness of the proposed method. (8 Refs)

Subfile: C

Descriptors: pattern recognition; picture processing

Identifiers: centres of gravity; discontinuous contour images; polyline approximation method; contour pictures; clustering criterion; line segments; k - means method; hard clustering ; fuzzy clustering ; accelerating modifications

Class Codes: C1250 (Pattern recognition)

9/5/24 (Item 8 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2002 Institution of Electrical Engineers. All rts. reserv.

01503350 INSPEC Abstract Number: B80017995, C80014366

Title: Hybrid clustering

Author(s): Hartigan, J.A.; Wong, M.A.

Author Affiliation: Yale Univ., New Haven, CT, USA

Conference Title: Proceedings of the Computer Science and Statistics 12th Annual Symposium on the Interface p.137-43

Publisher: Univ. Waterloo, Waterloo, Ont., Canada

Publication Date: 1979 Country of Publication: Canada xiii+500 pp.

Conference Date: 10-11 May 1979 Conference Location: Waterloo, Ont., Canada

Language: English Document Type: Conference Paper (PA)

Treatment: Theoretical (T)

Abstract: High density clusters are defined on a population with density f to be the maximal connected sets of values x with $f(x) \geq c$, for various values of c . A hybrid clustering method is proposed in which points are first partitioned into a moderate number of clusters by k - means , and the centers of the clusters are then clustered by single linkage. This procedure is practicable for very large numbers of points, and is shown to be consistent, under certain regularity conditions, in one dimension. The procedure is compared empirically with single linkage (corresponding to nearest neighbour density estimation), and kth nearest neighbour density estimation. (9 Refs)

Subfile: B C

Descriptors: statistical analysis

Identifiers: population; maximal connected sets; hybrid clustering ; single linkage; kth nearest neighbour; density estimation

Class Codes: B0240Z (Other and miscellaneous); C1140Z (Other and miscellaneous)

9/5/25 (Item 9 from file: 2)

DIALOG(R)File 2:INSPEC

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01385410 INSPEC Abstract Number: C79022700

Title: A new kind of representation in clustering

Author(s): Diday, E.; Govaert, G.; Lemoine, Y.

Author Affiliation: Univ. Paris IX-Dauphine, Paris, France

Conference Title: Proceedings of the 4th International Joint Conference on Pattern Recognition p.284-90

Publisher: Kyoto, Univ, Kyoto, Japan

Publication Date: 1978 Country of Publication: Japan xxii+1166 pp.

Conference Sponsor: Internat. Assoc. Pattern Recognition

Conference Date: 7-10 Nov. 1978 Conference Location: Kyoto, Japan

Language: English Document Type: Conference Paper (PA)

Treatment: New Developments (N); Theoretical (T)

Abstract: In the iterative relocation approach (as ISODATA or k - means) for finding a partition of a set of objects characterized by a finite number of parameters, each cluster is usually represented by its

center of gravity. The **dynamic clusters** approach gives a formalism which generalises the notion of **center** to various types of representation. A new class of problems is presented for which the representation of a **partition** contain a unique part C that is the same one for all the classes of the **partition**. This general formulation is applied in the following three examples: (1) adaptive distance; (2) adaptive discriminant plane; and (3) determination of a **partition** where classes have same distribution. (12 Refs)

Subfile: B C

Descriptors: pattern recognition; statistical analysis

Identifiers: **clustering**; iterative relocation approach; **partition**; adaptive distance; adaptive discriminant plane; pattern recognition

Class Codes: B6140C (Optical information processing); C1140Z (Other and miscellaneous); C1250 (Pattern recognition)

9/5/26 (Item 1 from file: 35)

DIALOG(R) File 35:Dissertation Abs Online

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01400989 ORDER NO: AAD95-07507

AUTOMATED DETECTION OF DELIRIUM

Author: SOLLER, JEROME BARRY

Degree: PH.D.

Year: 1994

Corporate Source/Institution: THE UNIVERSITY OF UTAH (0240)

Source: VOLUME 55/10-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 4472. 205 PAGES

Descriptors: COMPUTER SCIENCE

Descriptor Codes: 0984

This dissertation developed computerized decision support for the recognition of delirium, a condition resulting in high morbidity and cost. The decision support required the development of pen-based graphical user interfaces and client server databases for nursing data and clinical studies, the execution of clinical studies using those resources, the integration with the VA's DHCP laboratory package, the creation of longitudinal queries, and the development of computational models from queried data.

Queries to the clinical scale databases and the laboratory results databases produced structured data, which validated existing clinical scales and supported the development of statistical models. The statistical models preprocessed the data by scale reliability analysis, the replacement of missing data, factor analysis, and **k - means cluster** analysis. The **linear discriminant classifier** and logistic regression models achieved high cross-validation **classification** accuracy for delirium detection given scale data. These methods achieved low cross-validation **classification** accuracy for delirium detection given laboratory data, which is computerized at 171 VA Medical **Centers** nationwide. Multilayer perceptron, radial basis function, and winner take all artificial neural networks achieved useful levels of cross-validation **classification** accuracy given laboratory data.

This dissertation developed the sinc tensor product network as an alternative to existing artificial neural network architectures. Kronecker products of matrix rows calculate the tensor products. Singular value decomposition solves the resulting weighted least squares optimization problem. Sinc tensor product network optimization has similar time complexity to radial basis function network optimization and lower time complexity than backward error propagation for the multilayer perceptron. Setting the lower **magnitude** singular values to zero imposed regularization on the sinc tensor product network. The regularized sinc tensor product network achieved higher cross-validation **classification** accuracy than the other artificial neural network architectures.

9/5/27 (Item 2 from file: 35)

DIALOG(R) File 35:Dissertation Abs Online

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01315190 ORDER NO: AAD93-29342

LEARNING RATE SCHEDULES FOR STOCHASTIC GRADIENT ALGORITHMS (CONVERGENCE RATES)

Author: DARKEN, CHRISTIAN J.

Degree: PH.D.

Year: 1993

Corporate Source/Institution: YALE UNIVERSITY (0265)

Adviser: JOHN E. MOODY

Source: VOLUME 54/06-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 3250. 133 PAGES

Descriptors: ENGINEERING, ELECTRONICS AND ELECTRICAL; STATISTICS;
ENGINEERING, SYSTEM SCIENCE

Descriptor Codes: 0544; 0463; 0790

Stochastic gradient descent is an important class of stochastic processes which is relevant to learning as studied in engineering and biology. LMS adaptive filtering, online backpropagation, and forms of **k - means clustering** (vector quantization), all important signal processing algorithms, are stochastic gradient descent processes. Stochastic gradient processes can often be viewed as online optimization algorithms. The advantage of these algorithms is that the update complexity is typically **linear** in the **number** of system parameters as compared to quadratic or worse for variants of Newton's method. Thus there continues to be great interest in using stochastic gradient algorithms to solve the large least squares problems which are ubiquitous in engineering. Each algorithm takes steps down the gradient of some loss function. The step **size** is controlled by an adjustable sequence of gains (or "learning rate schedule"). How to choose this sequence in order to quickly find a good local minimum of the loss is the **central** problem studied in this work.

We present a new deterministic schedule which has improved chances of escaping from local minima but which is still capable of achieving fast convergence asymptotically. These schedules keep the learning rate constant at small times (the "search" phase), and reduce the rate like c/t asymptotically (the "converge" phase). This schedule performs much better than the standard choice for **k - means clustering**.

We propose a new adaptive learning rate schedule, based on our extensions to stochastic approximation theory, which tunes c on **line**. Our starting point is the classical result that in order to converge to a minimum as quickly as possible, the learning rate must go asymptotically as c/t , where c is greater than some task-dependent threshold. We develop a specific, computationally inexpensive method for determining whether a particular c is large enough and prove that it works. Additionally, experimental results on signal processing tasks are presented for both new schedules.

9/5/28 (Item 3 from file: 35)

DIALOG(R) File 35:Dissertation Abs Online

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01090434 ORDER NO: AAD90-05153

ON LIMIT THEOREMS OF THE FUZZY C-MEANS CLUSTERING PROCEDURE

Author: YANG, MIINSHEN

Degree: PH.D.

Year: 1989

Corporate Source/Institution: UNIVERSITY OF SOUTH CAROLINA (0202)

MAJOR PROFESSOR: KAI FUN YU

Source: VOLUME 50/09-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 4045. 58 PAGES

Descriptors: MATHEMATICS; COMPUTER SCIENCE

Descriptor Codes: 0405; 0984

The fuzzy c-means (FCM) **clustering** procedure is usually used to **cluster** a finite data set. The FCM **clustering** is one type of generalization of the classical **k - means clustering**. We study the asymptotic behavior of the FCM **clustering** in this thesis. One is the strong consistency of the FCM. The other is the **central limit** theorem

for the FCM.

A vector $a = (a_1, \dots, a_c)$ of $(R^S)^c$ of $(R^S)^c$ with c components, (a_1, \dots, a_c) , in the s -dimensional Euclidean space R^S induces a fuzzy c -partition of subsets of R^S by the membership functions $\mu_i(x, a) = \frac{\sum_{j=1}^c |x - a_j|^2 / (m-1)}{\sum_{j=1}^c |x - a_j|^2 / (m-1)}$ for $i = 1, \dots, c$ where m is a constant bigger than one. Let P be a probability distribution on R^S and let a^* be a minimizer of $\int (\sum_{j=1}^c |x - a_j|^2 / (m-1))^{1/(1-m)} P(dx)$ over all elements of $(R^S)^c$. Let a_n be the sample analogue for a simple random sample of size n from P . For any fixed constant $m > 1$, it is established that a_n converges to a^* with probability one as n tends to infinity. Consequently the fuzzy c -partition induced by a_n will also converge with probability one to that induced by a^* . The operator T on the space of sets with c elements defined by $T(\mu) = \int (\sum_{j=1}^c |x - \mu_j|^2 / (m-1))^{1/(1-m)} P(dx)$ for $i = 1, \dots, c$ is shown to have a fixed point a^* , i.e. $Ta^* = a^*$ under appropriate conditions. The iterative procedure derived from this relationship is the FCM clustering algorithm with respect to P . Finally we will establish the asymptotic normality of the normalized sample cluster center $a_n^{(1/2)} ((a_n - a^*) / N^{1/2})$. That is, $a_n^{(1/2)} ((a_n - a^*) / N^{1/2}) \rightarrow N(0, H^{-1} \Sigma H^{-1})$ in distribution as $n \rightarrow \infty$, where H and Σ are the special matrices as defined in this thesis.

9/5/29 (Item 4 from file: 35)

DIALOG(R)File 35:Dissertation Abs Online

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0968126 ORDER NO: AAD87-24314

TRAVELING LIGHT: LITHIC INFERENCE, SITE STRUCTURE AND HUNTER-GATHERER MOBILITY STRATEGIES AT GATECLIFF SHELTER, NEVADA

Author: NOVICK, ANDREA LEE

Degree: PH.D

Year: 1987

Corporate Source/Institution: WASHINGTON STATE UNIVERSITY (0251)

Source: VOLUME 48/08-A OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 2092. 373 PAGES

Descriptors: ANTHROPOLOGY, ARCHAEOLOGY

Descriptor Codes: 0324

Flaked stone tools and debitage from the excavation of Gatecliff Shelter, Nevada, a stratified rockshelter with a consistent suite of radiocarbon dates, are used to examine hunter-gatherer mobility/organizational strategies and site structure. Current models of hunter-gatherer mobility strategies are based on the ethnographic literature, and ethnoarchaeological and archaeological research. It is anticipated that in the study area expedient tools (unifaces, flake tools) characterize assemblages representing residential mobility, while curated tools (bifacial cores, bifaces, projectile points) characterize assemblages representing logistical mobility.

Qualitative and quantitative models have been developed to examine rockshelter site structure. These are tested by analysis of debitage and tools, within Gatecliff Shelter relative to features and boundaries, using SYMAP computer mapping, refitting tools and debitage, regression analysis, the k -means procedure, and simulation.

The results of the analysis of flaked stone tools and debitage and study of their distributions provide four conclusions. First, little post-distributions--small artifacts and the by-products of tool use are discarded adjacent to hearths while large artifacts are generally deposited away from such activity centers--support the spatial models. However, not all tools are significantly associated with features. This evidence is interpreted as spatially overlapping discard and hearth use resulting from multiple occupations.

Third, lithic technology does not change through time at Gatecliff Shelter (as illustrated by continued production of projectile points from

flake blanks, and homogeneity of debitage and platform classes). Fourth, the debitage and tools of distinctive lithic materials exhibit diversity identified as "profiles." These profiles serve as heuristic devices that indicate the debitage and tools represent curated assemblages characteristic of activities associated with logistical strategies. Because Gatecliff Shelter functioned in a similar role through time, the diachronic homogeneity of the lithic assemblages reflects the constant structure of the site within a number of different mobility strategies through time.

9/5/30 (Item 5 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online
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906455 ORDER NO: AAD86-01157

A STUDY OF ALGORITHMS FOR THE K - MEDIAN PROBLEM AND THE VEHICLE ROUTING PROBLEM

Author: AHN, SANG-HYUNG
Degree: PH.D.
Year: 1985
Corporate Source/Institution: CARNEGIE-MELLON UNIVERSITY (0041)
Source: VOLUME 46/12-A OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 3772. 123 PAGES
Descriptors: BUSINESS ADMINISTRATION, GENERAL
Descriptor Codes: 0310

The distribution problem can occur directly in routing problems such as the transportation problem, the travelling salesman problem and the vehicle routing problem, or indirectly in location problems such as the **k - median**, the simple plant location, and the capacitated plant location problem.

In this thesis we investigate two topics related to distribution management, namely the **k - median** problem and the vehicle routing problem. These two problems share the following two important properties: first, both problems, when formulated as mathematical programming problems, have common subsets of constraints, second, the decision variables, can be divided into two kinds of variables, strategic or tactical variables.

The **k - median** problem has been widely studied both from the theoretical point of view and for its application. An interesting theoretical development was the successful probabilistic analysis of several heuristics for the **k - median** problem. On the other hand, the literature on the **k - median** problem abounds in exact algorithms. Most are based on the solution of the strong **linear** programming relaxation. The computational experience reported in the literature seems to indicate that this particular relaxation yields impressively tight bounds compared to what can usually be expected in integer programming. In this thesis we analyse to what extent this relaxation is tight. We perform our analysis under various probabilistic assumptions and identify conditions under which the relaxation can be expected to be tight and others under which it can be expected to give a poor bound.

Besides the probabilistic analysis, we provide polyhedral and structural analysis of the **k - median** problem. We investigate the properties of the polytope defined by the strong **linear** programming relaxation constraints. We present several trees where the **linear** programming relaxation always has a fractional optimal solution and the relative gap, $(Z(,IP) - Z(,LP))/Z(,IP)$ converges to $1/2$ as n goes to (∞) .

In addition to the theoretical analysis, we also report extensive computational experiments, based on the solutions of thousands of medium- **size** problems.

We consider a variant of the vehicle routing problem where a restriction on the length of each tour travelled by each vehicle plays a dominant role. As a result, our formulation significantly deviates from the conventional ones. We propose an algorithm based on a decomposition method. The algorithm alternates between solving a master problem to **cluster** customers and solving the traveling salesman problems to determine the actual vehicle routes through the customers and **central** depot. We also report computational experience. (Abstract shortened with permission of

author.)

9/5/31 (Item 1 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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04533486 E.I. No: EIP96103368518

Title: **Channel equalization using radial basis function network**
Author: Lee, Jungsik; Beach, Charles D.; Tepedelenlioglu, Nazif
Corporate Source: Florida Inst of Technology, Melbourne, FL, USA
Conference Title: Proceedings of the 1996 IEEE International Conference
on Acoustics, Speech, and Signal Processing, ICASSP. Part 3 (of 6)
Conference Location: Atlanta, GA, USA Conference Date:
19960507-19960510

Sponsor: IEEE
E.I. Conference No.: 45447
Source: ICASSP, IEEE International Conference on Acoustics, Speech and
Signal Processing - Proceedings v 3 1996. IEEE, Piscataway, NJ,
USA, 96CB35903. p 1719-1722

Publication Year: 1996
CODEN: IPRODJ ISSN: 0736-7791
Language: English

Document Type: CA; (Conference Article) Treatment: T; (Theoretical)
Journal Announcement: 9612W3

Abstract: In this paper, we discuss the application of a radial basis
function (RBF) network to the channel equalization problem. In particular,
the purpose of the paper is to improve the previously developed RBF
equalizer with training using **K - means** and LMS methods; reducing the RBF
network **size** by considering a lesser **number** of RBF **centers**, and
developing new techniques for determining channel order which is required
to specify the structure of an RBF equalizer. A **linear** regression model
was used for estimating the channel order. The basic idea of reducing the
network **size** is to select the **centers**, based on the channel lag. This
work includes the comparison of the **limits** of mean square error (MSE)
convergence of both a **linear** equalizer and an RBF equalizer. (Author
abstract) 9 Refs.

Descriptors: *Neural networks; Communication channels (information
theory); Equalizers; Mathematical models; Regression analysis; Functions;
Parameter estimation; Convergence of numerical methods; Correlation methods
; Learning algorithms

Identifiers: Channel equalization; Radial basis function network;
Autocorrelation techniques; **K means clustering** algorithm; Channel
order estimation

Classification Codes:
723.4 (Artificial Intelligence); 716.1 (Information & Communication
Theory); 713.5 (Other Electronic Circuits); 922.2 (Mathematical
Statistics); 731.1 (Control Systems)
723 (Computer Software); 716 (Radar, Radio & TV Electronic Equipment);
713 (Electronic Circuits); 921 (Applied Mathematics); 922 (Statistical
Methods); 731 (Automatic Control Principles)
72 (COMPUTERS & DATA PROCESSING); 71 (ELECTRONICS & COMMUNICATIONS); 92
(ENGINEERING MATHEMATICS); 73 (CONTROL ENGINEERING)

Set	Items	Description
S1	1338	KMEAN? OR K()MEAN? ?
S2	9694569	CENTROID? OR CENTER? OR CENTRAL? OR MEDIAN? OR MIDPOINT? OR MID()POINT? OR MIDDLE?
S3	1452842	CLUSTER? OR MATRIX? OR PARTITION? OR DATA()POINT? OR BOUND-AR?
S4	2518053	PARALLEL()PROCESS? OR CONCUR? OR CO()OCCUR? OR COOCCUR? OR SIMULTAN? OR SAME()TIME?
S5	8709825	MOVE? OR REALIGN? OR REASSIGN? OR REDESIGNAT? OR MOVING OR UPDAT? OR UP()(DATE? OR DATING?)
S6	357	S1 AND S4
S7	44	S2(5N)S5 (10N) S3 (10N) S4
S8	1	S2(5N)S5(10N)S3(S)S4(S) (ALGORITHM? OR FORMULA? OR STATISTICAL() (METHOD? OR TECHNIQ?) OR CALCULAT?)
S9	66882	(CLUSTER? OR GROUP? OR DATAPOINT? OR DATA()POINT? OR BOUND-AR?)(2N)S5
S10	3	S1(S)S4 AND S9
S11	2	S1(5N)S4
S12	50	S7 OR S8 OR S10 OR S11
S13	36	RD (unique items)
S14	30	S13 NOT PY>2000
S15	29	S14 NOT PD>20001004
File 275:	Gale Group Computer DB(TM)	1983-2003/Feb 26 (c) 2003 The Gale Group
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File 636:	Gale Group Newsletter DB(TM)	1987-2003/Feb 26 (c) 2003 The Gale Group
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File 141:	Readers Guide	1983-2003/Jan (c) 2003 The HW Wilson Co
File 239:	Mathsci	1940-2003/Apr (c) 2003 American Mathematical Society
File 370:	Science	1996-1999/Jul W3 (c) 1999 AAAS
File 696:	DIALOG Telecom. Newsletters	1995-2003/Feb 26 (c) 2003 The Dialog Corp.
File 621:	Gale Group New Prod. Annou. (R)	1985-2003/Feb 26 (c) 2003 The Gale Group
File 674:	Computer News Fulltext	1989-2003/Feb W4 (c) 2003 IDG Communications
File 88:	Gale Group Business A.R.T.S.	1976-2003/Feb 25 (c) 2003 The Gale Group
File 369:	New Scientist	1994-2003/Feb W3 (c) 2003 Reed Business Information Ltd.
File 160:	Gale Group PROMT(R)	1972-1989 (c) 1999 The Gale Group
File 635:	Business Dateline(R)	1985-2003/Feb 26 (c) 2003 ProQuest Info&Learning
File 15:	ABI/Inform(R)	1971-2003/Feb 26 (c) 2003 ProQuest Info&Learning
File 9:	Business & Industry(R)	Jul/1994-2003/Feb 26 (c) 2003 Resp. DB Svcs.
File 13:	BAMP	2003/Jan W2 (c) 2003 Resp. DB Svcs.
File 810:	Business Wire	1986-1999/Feb 28 (c) 1999 Business Wire
File 610:	Business Wire	1999-2003/Feb 27 (c) 2003 Business Wire.

File 647: CMP Computer Full-Text 1988-2003/Feb W2
(c) 2003 CMP Media, LLC

File 98: General Sci Abs/Full-Text 1984-2003/Jan
(c) 2003 The HW Wilson Co.

File 148: Gale Group Trade & Industry DB 1976-2003/Feb 25
(c) 2003 The Gale Group

15/3,K/1 (Item 1 from file: 47)
DIALOG(R)File 47:Gale Group Magazine DB(TM)
(c) 2003 The Gale group. All rts. reserv.

05229824 SUPPLIER NUMBER: 21147887 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Centerpiece of attention. (flower arrangement)
Martin, Tovah
Horticulture, The Art of American Gardening, v95, n8, p38(6)
Sept-Oct, 1998
LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 2525 LINE COUNT: 00196

... is low, she starts with the heaviest elements: grapes and hydrangeas.

The anchor established, she **moves** on to the upper extremities of the composition "because we need to know the **boundaries** of the arrangement."

Integration is achieved by working on all parts of the bouquet **simultaneously**, and so Runkle begins staging the **central** focal point while the top still remains unfinished.

Fillers such as Chinese forget-me-not...

15/3,K/2 (Item 1 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2003 The Gale Group. All rts. reserv.

02045744 Supplier Number: 43726468 (USE FORMAT 7 FOR FULLTEXT)
DATABASE: NEW IBM VERSION OF DB2 DATABASE FEATURING ENHANCED PERFORMANCE & DATA AVAILABILITY
EDGE: Work-Group Computing Report, v4, n148, pN/A
March 22, 1993
Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 885

... without locking other partitions.

Independent partitions also enable maintenance to be performed on a single **partition**, instead of an entire table or index space. Large single-utility jobs can be divided into smaller ones and processed **concurrently**. And, different utilities can be run on different **partitions simultaneously**, without disrupting each other.

DB2 Version 3 also exploits the Asynchronous Data **Mover** Facility of IBM's new Enterprise System/9000 (ES/9000) processors by more efficiently **moving** large amounts of data between **central** and expanded storage, thus freeing up more processor resource for customer workloads.

With this facility...

15/3,K/3 (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2003 The Gale Group. All rts. reserv.

04105570 Supplier Number: 45986977 (USE FORMAT 7 FOR FULLTEXT)
NASA'S GODDARD SPACE FLIGHT CENTER TRIPLES ITS SUPERCOMPUTING POWER WITH CLUSTER OF CRAY SUPERCOMPUTERS
PR Newswire, p1204MNM011
Dec 4, 1995
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 571

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

...that it has received an order for multiple CRAY J932(TM) supercomputers from the NASA **Center** for Computational Sciences. The systems were selected by NCCS to **move** its production computing from a predominately single processor environment to a **parallel processing center**. The CRAY J932 systems, each scalable up to 32 processors, will be **clustered**

to provide a tightly integrated distributed memory environment to tackle even larger computational workloads. Cray...

15/3,K/4 (Item 2 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2003 The Gale Group. All rts. reserv.

03733110 Supplier Number: 45294507 (USE FORMAT 7 FOR FULLTEXT)
FelPro Inc.
Automotive News, v0, n0, p36
Jan 30, 1995
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Tabloid; Trade
Word Count: 189

... specific clients, with responsibility to prioritize shipping and guide products through the factory. At the **same time**, FelPro's Skokie, Ill., production **center** is **moving** to cellular manufacturing to improve efficiency.

By **clustering** machinery together to produce certain families of gaskets, the company is eliminating much of the...

15/3,K/5 (Item 3 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2003 The Gale Group. All rts. reserv.

02335959 Supplier Number: 43061842 (USE FORMAT 7 FOR FULLTEXT)
Peasant takes casual Mick's to Midwest, eyes other sites
Nation's Restaurant News, v0, n0, p3
June 8, 1992
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Tabloid; Trade
Word Count: 385

... will open a 350-seat version of the casual concept next week in downtown City **Center**.

In its first **move** outside of Atlanta, Peasant intends to **cluster** at least six Mick's units each in Minneapolis and Chicago, according to co-founder and president Stephan Nygren.

Simultaneously, Peasant's management is scouting several Mick's locations in Washington, D.C., where it...

15/3,K/6 (Item 1 from file: 484)
DIALOG(R)File 484:Periodical Abs Plustext
(c) 2003 ProQuest. All rts. reserv.

03663700 (USE FORMAT 7 OR 9 FOR FULLTEXT)
On proportions
Wolpe, Stefan; Greenbaum, Matthew
Perspectives of New Music (PPNM), v34 n2, p132-184, p.53
Summer 1996
ISSN: 0031-6016 JOURNAL CODE: PPNM
DOCUMENT TYPE: Feature
LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 8023

TEXT:

... Captioned as: EXAMPLE 16
(Chart Omitted)
Captioned as: Example 17

In the extreme layering of **simultaneous** asymmetries for which the **cluster**, the swarm, the crowd, and the entanglement are typical perceptual forms-even there-their suspended **center** originates, since in general almost the same thing is happening at the **same time**. **Movements** are begun, are simultaneously dropped, are again restored, are multiplied,

simultaneously interlaced, are welded together...

15/3,K/7 (Item 2 from file: 484)
DIALOG(R)File 484:Periodical Abs Plustext
(c) 2003 ProQuest. All rts. reserv.

02982147 (USE FORMAT 7 OR 9 FOR FULLTEXT)
Empowering middle managers to be transformational leaders
Spreitzer, Gretchen M; Quinn, Robert E
Journal of Applied Behavioral Science (JBS), v32 n3, p237-261, p.25
Sep 1996
ISSN: 0021-8863 JOURNAL CODE: JBS
DOCUMENT TYPE: Feature
LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 10224

TEXT:

... and strategic direction were designed to create a sense of urgency about the need for **middle** managerial change. In addition to the strategic changes described above, cultural changes were being driven by the organization's newly developed Mission, Values, and Guiding Principles.

At the **same time**, the organization was loosening its traditional functional structure through use of colocated, cross-functional teams and an eventual **move** to a **matrix** structure. At Ford, functions had traditionally been viewed as chimneys, acting as walls, keeping managers...

15/3,K/8 (Item 3 from file: 484)
DIALOG(R)File 484:Periodical Abs Plustext
(c) 2003 ProQuest. All rts. reserv.

02767638 (USE FORMAT 7 OR 9 FOR FULLTEXT)
What is deconstruction, and where and when does it take place? Making facts in science, building cases in law--Comment/reply
Fuchs, Stephan; Ward, Steven; Agger, Ben
American Sociological Review (GASR), v59 n4, p481-510
Aug 1994
ISSN: 0003-1224 JOURNAL CODE: GASR
DOCUMENT TYPE: Feature
LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 18641 LENGTH: Long (31+ col inches)

TEXT:

... not even register that something was going on. The leading texts and documents attract and **cluster** many citations and co-citations. They come to define the **movement**'s intellectual agenda. Commentaries on these texts appear, and eventually textbooks as well.

At the **same time**, organizational and educational **centers** emerge. They produce master-apprentice ties that extend the relevant networks across time and space...

15/3,K/9 (Item 1 from file: 813)
DIALOG(R)File 813:PR Newswire
(c) 1999 PR Newswire Association Inc. All rts. reserv.

0713849 PG002
BREAKTHROUGH AWARD HONORS HEART MODELING BY NYU SCIENTISTS AT PITTSBURGH SUPERCOMPUTING CENTER

DATE: June 10, 1994 10:53 EDT WORD COUNT: 510

...approach to deal with the problem of modeling fluid flows interacting with a flexible, elastic **boundary** such as the muscle fibers of the heart. Because this is a "coupled system" -- the elastic **boundary** **moves** the fluid at the **same time** as the fluid pushes back against it -- the standard techniques of

computational fluid dynamics are inadequate. Through workshops at the Pittsburgh Supercomputing Center and through scientific literature, the immersed boundary method has become a prevalent tool in computational research and has been applied to modeling...

15/3,K/10 (Item 1 from file: 239)

DIALOG(R) File 239:Mathsci

(c) 2003 American Mathematical Society. All rts. reserv.

01661048 MR 82c#80007

Combined ADI iteration and implicit central difference numerical method for solving nonlinear conjugated partial differential equations with moving boundary heat.

Advances in computer methods for partial differential equations, III (Proc. Third IMACS Internat. Sympos., Lehigh Univ., Bethlehem, Pa., 1979)

Fong, Fred Ku

Skidmore, Duane R.

1979,

IMACS, New Brunswick, N.J.,; pp. 120--126,,

Language: English

Subfile: MR (Mathematical Reviews) AMS

Abstract Length: SHORT (8 lines)

Reviewer: Authors' summary

Authors' summary: 'A new numerical method, the method of alternating variables, is devised to solve **simultaneously** three conjugated equations with a **moving boundary**. This method combines the ADI iteration method for the parabolic equation and the implicit **central** difference method for the hyperbolic equation by solving for alternate variables at successive time intervals...

15/3,K/11 (Item 2 from file: 239)

DIALOG(R) File 239:Mathsci

(c) 2003 American Mathematical Society. All rts. reserv.

01654087 MR 82a#65005

Advances in computer methods for partial differential equations. III.

Proceedings of the Third IMACS International Symposium on Computer Methods for Partial Differential Equations held at Lehigh University, Bethlehem, Pa., June 20--22, 1979. Edited by R. Vichnevetsky and R. S. Stepleman.

Contributors: Vichnevetsky, R.; Stepleman, R. S.

Publ: International Association for Mathematics and Computers in Simulation (IMACS), New Brunswick, N.J.,

1979, vii+442 pp.

Language: English

Advances in computer methods for partial differential equations;; IMACS Symposium: Computer Methods for Partial Differential Equations;; Computer methods; Partial differential equations; Bethlehem, Pa., 3 3rd International 1979

Subfile: MR (Mathematical Reviews) AMS

Abstract Length: LONG (189 lines)

Reviewer: Editors

...O. Blackketter, M. S. Henry and E. R. Garner, A new iterative method for solving **simultaneous** linear equations (pp. 70 - 72); E. Adams and W. F. Ames, Contracting interval iteration for...

...moving boundary (abstract) (p. 118); B. E. McDonald, S. T. Zalesak and J. G. Lyon, **Algorithms** for multidimensional transport (abstract) (p. 119); Fred Ku Fong and Duane R. Skidmore, Combined ADI iteration and implicit **central** difference numerical method for solving nonlinear conjugated partial differential equations with **moving boundary** heat transfer in in situ coal liquefaction (pp. 120 - 126); Alvin Bayliss and Eli Turkel...

...Daniel B. Szyld and O. B. Widlund, Applications of conjugate gradient type methods to eigenvalue **calculations** (pp. 167 - 173); Heinz Kossmann, Finite-difference approximations for nonlinear hyperbolic partial differential equations with time periodic solutions (pp. 174 - 178); D. M. Kuzo and S. H. Johnson, **Calculated** global conditions for the unsteady Euler flow equations (pp. 179 - 184); B. H. McDonald, A...

...difference solution of a Stefan problem (pp. 196 - 200); George A. Keramidas, A finite element **formulation** for the nonlinear heat conduction (pp. 201 - 204); Aspi Rustom Wadia and Fred R. Payne...lining of an electric chamber furnace (pp. 409 - 415); D. L. Hicks, Vector and parallel **algorithms** for multidimensional Lagrangean wavecodes (abstract) (p. 416); Robert L. McCrory and Steven A. Orszag, Spectral...

...variables (abstract) (p. 435); Paul O. Frederickson and W. Roy Wessel, A fast semi-implicit **algorithm** for problems of mixed type (pp. 436 - 438); Gerard R. Richter, Numerical identification of a...

15/3,K/12 (Item 3 from file: 239)

DIALOG(R)File 239:Mathsci

(c) 2003 American Mathematical Society. All rts. reserv.

01426289 MR 54##14215

Bayes-Stein estimators for k means, regression and simultaneous equation models.

Studies in Bayesian econometrics and statistics (in honor of Leonard J. Savage)

Zellner, Arnold

Vandaele, Walter

1975,

North-Holland, Amsterdam,; pp. 627--653. Contributions to Economic Analysis, No. 86,,

Language: English

Subfile: MR (Mathematical Reviews) AMS

Abstract Length: LONG (33 lines)

Reviewer: Leonard, Tom

Bayes-Stein estimators for k means, regression and simultaneous equation models.

15/3,K/13 (Item 4 from file: 239)

DIALOG(R)File 239:Mathsci

(c) 2003 American Mathematical Society. All rts. reserv.

01408074 MR 53##11818

Studies in Bayesian econometrics and statistics.

In honor of Leonard J. Savage. Edited by Stephen E. Fienberg and Arnold Zellner. Contributions to Economic Analysis, No. 86.

Contributors: Savage, Leonard J.; Fienberg, Stephen E.; Zellner, Arnold

Publ: North-Holland Publishing Co., Amsterdam-Oxford; American Elsevier Publishing Co., Inc., New York,

1975, ix+676 pp. (errata insert)

Language: English

Studies in Bayesian econometrics and statistics; Bayesian econometrics; Statistics; Collection: Savage, Leonard Jimmie

Subfile: MR (Mathematical Reviews) AMS

Abstract Length: LONG (89 lines)

Reviewer: Editors

...52\#2013] (pp. 619--626); Arnold Zellner and Walter Van-daele, Bayes-Stein estimators for k means, regression and **simultaneous equation models** (pp. 627--653); Appendix: Program of the First NBER-NSF Seminar on Bayesian...

15/3,K/14 (Item 1 from file: 621)

DIALOG(R)File 621:Gale Group New Prod.Annou.(R)
(c) 2003 The Gale Group. All rts. reserv.

01058681 Supplier Number: 40228412 (USE FORMAT 7 FOR FULLTEXT)
**WANG INTRODUCES VIRTUAL MACHINE OPERATING SYSTEM FOR VS COMPUTERS ; TARGETS
MIS OPERATIONS WITH MULTIPLE OPERATING SYSTEMS CAPABILITY**

News Release, pl

Dec 1, 1987

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 467

... machines are task independent; all can be dedicated to
different applications running on the same **central** processor. In
vertical applications, such as service bureau timesharing, VS/VM
conserves costs and improves throughput and availability by running
different client applications **simultaneously** on the same computer.
The multiple environments can be controlled from a single
workstation. Operators can **move** between the **partitioned**
applications
with a single keystroke.

VS/VM also enforces security between operating systems. Operators
can...

15/3,K/15 (Item 2 from file: 621)

DIALOG(R)File 621:Gale Group New Prod.Annou.(R)
(c) 2003 The Gale Group. All rts. reserv.

01016814 Supplier Number: 39644750 (USE FORMAT 7 FOR FULLTEXT)
**INFORMATION BUILDERS, INC. ANNOUNCES FIRST PRODUCTION RELEASE OF FOCUS
4GL/DEMS FOR DEC VAX ENVIRONMENT**

PR Newswire, pN/A

Dec 6, 1985

Language: English Record Type: Fulltext

Document Type: Newswire; Trade

Word Count: 672

...
modeling and spreadsheet. Files participating in the JOIN may be on
the same standalone CPU, **clustered**
CPUs or on geographically separate
CPUs coupled through DECnet.

SIMULTANEOUS UPDATE (SU) - FOCUS for VAX will now allow for
concurrent updating of the same FOCUS database by up to 256
simultaneous users. The SU facility operates with a single copy of
FOCUS acting as a **central** or "sync" machine into which transaction
streams for multiple users are directed. A straightforward
"change..."

15/3,K/16 (Item 1 from file: 88)

DIALOG(R)File 88:Gale Group Business A.R.T.S.
(c) 2003 The Gale Group. All rts. reserv.

05331110 SUPPLIER NUMBER: 59599080

The Imagined Modern Nation in Yusuf Idris's Al-farafir. (Critical Essay)

Ouyang, Wen-chin

Modern Language Quarterly, 60, 3, 379

Sept, 1999

DOCUMENT TYPE: Critical Essay

ISSN: 0026-7929

LANGUAGE: English

RECORD TYPE: Fulltext

WORD COUNT: 13462 LINE COUNT: 01076

... to the benefit of modernity. Finally, the pairing of global and
local betrays the impulse **simultaneously** to participate in shaping world

civilization and maintain unique characteristics or concomitantly to move toward the **center** while retaining the privileges of the margin. The **boundaries** of these paradoxes are, however, collapsed; the clustering of the adjectives reveals that legitimacy...

15/3,K/17 (Item 1 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)
(c) 1999 The Gale Group. All rts. reserv.

01642197

science/scope: An Advanced Medium-Range Air-to-Air Missile.
JOURNAL OF ELECTRONIC DEFENSE June, 1987 p. 391

... 1,000 feet above sea level. Following launch, AMRAAM guided itself using data link target **updates**. In the terminal phase of the flight, AMRAAM's active radar **simultaneously** locked on and tracked each of the drones. The radar successfully differentiated between the two **clustered** targets and hit one rather than selecting a **central** point between them. AMRAAM is in full-scale development for the US Air Force and...

15/3,K/18 (Item 1 from file: 635)
DIALOG(R)File 635:Business Dateline(R)
(c) 2003 ProQuest Info&Learning. All rts. reserv.

0727122 96-85625

Empty apartments a vanishing species

Church, Foster
Oregonian (Portland, OR, US) pA1
PUBL DATE: 960705
WORD COUNT: 1,070
DATELINE: Portland, OR, US, Pacific

TEXT:

...housing market in several ways. Many of them buy houses, which drives up prices. The **median** price of a house in Portland has increased 50 percent since 1991. This in turn creates demand for apartments because fewer people can afford to buy homes. At the **same time**, many of the newcomers, even if they buy, will rent temporarily.

* As people **move** to the Portland area, the region's urban growth **boundary** -- a ring around the region that restricts residential development -- has limited the land available for...

15/3,K/19 (Item 1 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)
(c) 2003 ProQuest Info&Learning. All rts. reserv.

01110132 97-59526

Alliance takes aim at clustered servers

Damore, Kelley; Willett, Shawn
Computer Reseller News n653 PP: 1, 230 Oct 16, 1995
ISSN: 0893-8377 JRNL CODE: CRN
WORD COUNT: 638

...TEXT: due out in 1997.

THE NEXT WAVE

Rollout plans:

- * First phase to include two-server **cluster**, failover.
- * Next phase targets scalability.

In Concert:

- * Systems vendors, included Digital, to develop **middleware** for **clustered** PC servers.
- * Applications written to specs to **simultaneously** run on multiple PCs.
- * Basic **clustering** to show up in Compaq, HP servers next year.
- * **Move** will help put Windows NT on par with Unix for scalability.

15/3,K/20 (Item 2 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)
(c) 2003 ProQuest Info&Learning. All rts. reserv.

00882760 95-32152

Dealing with big-time change

Kimmel, Peter S; Vanderburgh, Lawrence W
Facilities Design & Management v13n6 PP: 52-55 Jun 1994
ISSN: 0279-4438 JRNL CODE: FDM
WORD COUNT: 2599

...TEXT: possible and were otherwise left at the local sites, to keep day-to-day work **moving**. **Matrix** management was implemented. FMs reported to line management at local sites and at the **same time** reported to the facilities chief at headquarters.

The bank that previously had one **central** headquarters now had a corporate headquarters and multiple regional **centers**. Each local FM department had detailed knowledge of its markets and good rapport with local...

15/3,K/21 (Item 3 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)
(c) 2003 ProQuest Info&Learning. All rts. reserv.

00827807 94-77199

Organizing for Europe

Anonymous
International Journal of Retail & Distribution Management Retail Insights Supplement PP: xv-xvi Winter 1993
ISSN: 0959-0552 JRNL CODE: RDM
WORD COUNT: 1006

...TEXT: European countries are more similar than different.

As a result, the launching of brands or **moving** of brands from one country to another is happening with much greater frequency, with **simultaneous** launches for successful brands occurring quickly.

All this requires a major change in organizations. It also sees brand management **moving** up the company hierarchy, a **move** to a **matrix** organization with international brand structures as important as geographic-based structures, and a shift toward **centralization**.

The effects of these changes on brand communications are a general harmonization on packaging, pricing...

15/3,K/22 (Item 4 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)
(c) 2003 ProQuest Info&Learning. All rts. reserv.

00232216 84-10777

The Life Cycle of the Organization - Part 1

Meyer, Bill T.; Merrell, David W.
Journal of Commercial Bank Lending v66n5 PP: 19-37 Jan 1984
ISSN: 0021-986X JRNL CODE: CBL

...ABSTRACT: management problems, the firm moves to a personal management style characterized by high degrees of **centralization**, strong employee loyalty, and emerging skills specialization. As the organization becomes more decentralized, a professional management style emerges, characterized by performance/reward employee contracts and growing divisionalization, signalling a **move** to bureaucratic management with rigid rules and procedures. Later, the mature firm develops a **matrix** management style, allowing **simultaneous centralization** and decentralization. ...

15/3,K/23 (Item 1 from file: 9)
DIALOG(R)File 9:Business & Industry(R)
(c) 2003 Resp. DB Svcs. All rts. reserv.

01309440 (USE FORMAT 7 OR 9 FOR FULLTEXT)

Alliance takes aim at clustered servers
(Microsoft is working with at least 4 hardware vendors to bring clustering of servers to Windows NT as early as 1996)

Computer Reseller News, n 653, p 1+

October 16, 1995

DOCUMENT TYPE: Journal ISSN: 0893-8377 (United States)

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 638

(USE FORMAT 7 OR 9 FOR FULLTEXT)

TEXT:

...due out in 1997.

The Next Wave

Rollout plans:

First phase to include two-server **cluster**, failover.

Next phase targets scalability.

In Concert:

Systems vendors, including Digital, to develop **middleware** for **clustered** PC servers.

Applications written to specs to **simultaneously** run on multiple PCs.

Basic **clustering** to show up in Compaq, HP servers next year.

Move will help put Windows NT on par with Unix for scalability.

...

15/3,K/24 (Item 2 from file: 9)
DIALOG(R)File 9:Business & Industry(R)
(c) 2003 Resp. DB Svcs. All rts. reserv.

01078327 (USE FORMAT 7 OR 9 FOR FULLTEXT)

IBM Parallel Push Pays

(IBM's PowerParallel systems have exceeded 1994 sales expectations and the company expects to earn about \$200 mil in revenue on the systems)

Information Week, n 503, p 18

November 28, 1994

DOCUMENT TYPE: Journal ISSN: 8750-6874 (United States)

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 324

(USE FORMAT 7 OR 9 FOR FULLTEXT)

TEXT:

...sales result from server consolidation, which doesn't take advantage of

the SP2 system's **parallel processing** capabilities, Crothers adds. Many companies are **moving** to a **centrally** managed **cluster** of servers because it eases the task of managing client-server environments. "Customers can justify the purchase of an SP2 based on operational savings of managing servers from a **central** location, and move to parallel processing applications later," Crothers says.

Adding To The Ratio

Meanwhile...

15/3,K/25 (Item 1 from file: 647)
DIALOG(R)File 647:CMP Computer Fulltext
(c) 2003 CMP Media, LLC. All rts. reserv.

01035687 CMP ACCESSION NUMBER: IWK19941128S0021
IBM Parallel Push Pays - PowerParallel systems exceed sales goals to commercial market (In Short)
Barbara DePompa
INFORMATIONWEEK, 1994, n 503, PG18
PUBLICATION DATE: 941128
JOURNAL CODE: IWK LANGUAGE: English
RECORD TYPE: Fulltext
SECTION HEADING: Top Of The Week
WORD COUNT: 327

... sales result from server consolidation, which doesn't take advantage of the SP2 system's **parallel processing** capabilities, Crothers adds. Many companies are **moving** to a **centrally** managed **cluster** of servers because it eases the task of managing client-server environments. ``Customers can justify...

15/3,K/26 (Item 2 from file: 647)
DIALOG(R)File 647:CMP Computer Fulltext
(c) 2003 CMP Media, LLC. All rts. reserv.

01021120 CMP ACCESSION NUMBER: WIN19940701S0838
Automap Pro - All The Right Routes
James E. Powell
WINDOWS MAGAZINE, 1994, n 507 , 174
PUBLICATION DATE: 940701
JOURNAL CODE: WIN LANGUAGE: English
RECORD TYPE: Fulltext
SECTION HEADING: first impressions
WORD COUNT: 443

... the display of places of interest, forests, lakes and rivers, time zones, state and county **boundaries** , and latitude and longitude lines. Multiple map windows can be opened **simultaneously** and, if you make changes to one, they will all be **updated** .

The trip planner is the **centerpiece** of the program. It calculates the quickest, shortest and least expensive route for a journey...

15/3,K/27 (Item 1 from file: 98)
DIALOG(R)File 98:General Sci Abs/Full-Text
(c) 2003 The HW Wilson Co. All rts. reserv.

03767843 H.W. WILSON RECORD NUMBER: BGSA98017843 (USE FORMAT 7 FOR FULLTEXT)
Sexual strategy and size dimorphism in rattlesnakes: integrating proximate and ultimate causation.
Duvall, David
Beaupre, Steven J
American Zoologist (Am Zool) v. 38 nol (1998) p. 152-65
SPECIAL FEATURES: bibl il ISSN: 0003-1569
LANGUAGE: English

COUNTRY OF PUBLICATION: United States
WORD COUNT: 7916

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

... predators and finding safe and acceptably warm overnight refugia. Nevertheless, when all alternative explanations for **movement** and travel at this time are considered **concurrently**, the major function or ultimate goal served is location of sparse deer mouse **clusters** (Duvall et al., 1990). Subsequently, in approximately the **middle** of summer, a 7-week mating season ensues and continues until just about season's...

15/3,K/28 (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2003 The Gale Group. All rts. reserv.

11409493 SUPPLIER NUMBER: 56196510 (USE FORMAT 7 OR 9 FOR FULL TEXT)
The rest of the SoC task. (SPEAKING OF SILICON) (Technology Information)
Wilson, Ron
Electronic Engineering Times, 43
Oct 11, 1999
ISSN: 0192-1541 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 464 LINE COUNT: 00038

... replace: a large number of specialized packet engines running at line speed, clustered around a **central** higher-level CPU and linked by a more or less flexible interconnect **matrix**.
But in following this model, the network processors have left behind the old microcontroller paradigm and have started **moving** toward the concept of **parallel processing**. If you put your finger over the CPU block, the data sheet diagram for one...

15/3,K/29 (Item 2 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2003 The Gale Group. All rts. reserv.

08124425 SUPPLIER NUMBER: 17389671 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Plastics technology: manufacturing handbook & buyers' guide 1995/96. (Buyers Guide)
Plastics Technology, v41, n8, pCOV(941)
August, 1995
DOCUMENT TYPE: Buyers Guide ISSN: 0032-1257 LANGUAGE: English
RECORD TYPE: Fulltext
WORD COUNT: 174436 LINE COUNT: 15187

... tooling and downstream suppliers to offer complete systems for PVC windows.

KUHNE GMBH

See O/ K International.

LCI CORP.

Specialized processing machines and systems, gear pumps, microprocessor controls, motionless mixers, and...transport blower, and pellet cooler. Production rates to 3300 lb/hr.

RIETER CORP. PELLETIZING MACHINERY GROUP

Strand pelletizers have capacities from 200 to 14,000 lb/hr. USG 150, 300, and...DIN) and 1000 (1/8-DIN) single-loop temperature controllers feature dual LED display for **simultaneous** viewing of process and set-point values. Units provide relay, logic, or triac control output

Set	Items	Description
S1	3	KMEAN? OR K()MEAN? ?
S2	12929	CENTROID? OR CENTER? OR CENTRAL? OR MEDIAN? OR MIDPOINT? OR MID()POINT? OR MIDDLE?
S3	2432	CLUSTER? OR MATRIX? OR PARTITION? OR DATA()POINT? OR BOUND- AR?
S4	3872	PARALLEL()PROCESS? OR CONCUR? OR CO()OCCUR? OR COOCCUR? OR SIMULTAN? OR SAME()TIME?
S5	13170	MOVE? OR REALIGN? OR REASSIGN? OR REDESIGNAT? OR MOVING OR UPDAT? OR UP() (DATE? OR DATING?)
S6	0	S1 AND S4
S7	1	S2(5N)S5 (10N) S3 (10N) S4
S8	3	S2(S)S5(S)S3(S)S4
S9	6	S8 OR S1
S10	5	S9 NOT PY>2000
S11	5	S10 NOT PD>20001004

File 256:SoftBase:Reviews,Companies&Prods. 82-2003/Jan
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11/3,K/1

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.
(c)2003 Info.Sources Inc. All rts. reserv.

01109886 DOCUMENT TYPE: Product

PRODUCT NAME: GeneSight 3 (109886)

BioDiscovery Inc (695629)
4640 Admiralty Way #710
Marina Del Rey, CA 90292 United States
TELEPHONE: (310) 306-9310

RECORD TYPE: Directory

CONTACT: Sales Department

REVISION DATE: 020926

...and statistical significance testing. It is compatible with Affymetrix GeneChip. It includes statistical confidence analysis, **K - Means** clustering, and pattern similarity searching features. GeneSight also offers researchers time series and principal component...

11/3,K/2

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.
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00121171 DOCUMENT TYPE: Review

PRODUCT NAMES: KnowledgeSTUDIO 2.0 (704555)

TITLE: Angoss touts flexible framework

AUTHOR: MacMillan, Michael

SOURCE: Computerworld Canada, v15 n21 p36(2) Oct 22, 1999

ISSN: 1484-9089

HOME PAGE: <http://www.lti.on.ca>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

REVISION DATE: 20000830

...IV, ODBC, SAS, and SPSS. The data mining algorithms that are supported include CHAID, SAID, **K - Means** and Entropy decision tree algorithms, as well as multilayered perception, radial basis formation, and probabilistic ...

11/3,K/3

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.
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00113438 DOCUMENT TYPE: Review

PRODUCT NAMES: Netscape Enterprise Server 3.6 (608904)

TITLE: Netscape boosts enterprise tools: Enterprise Server upgraded

AUTHOR: Fitzloff, Emily

SOURCE: InfoWorld, v21 n3 p43(1) Jan 18, 1999

ISSN: 0199-6649

HOME PAGE: <http://www.infoworld.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

REVISION DATE: 20020630

...and Enterprise Server 3.6 ships with Netscape Directory Server, which provides administrators with a **central** management tool for managing resources, including users and groups located across the enterprise. Multiple servers are handled as one **cluster**, and administrators can start or stop remote services or **update** remote configuration files **concurrently**. Enterprise Server 3.6 supports standardized remote monitoring from network management systems, including OpenView, Tivoli...

11/3,K/4

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.
(c)2003 Info.Sources Inc. All rts. reserv.

00110848 DOCUMENT TYPE: Review

PRODUCT NAMES: GIS (830278)

TITLE: Identify Data Patterns
AUTHOR: Berry, Joseph K
SOURCE: GIS World, v11 n8 p26(2) Aug 1998
ISSN: 0897-5507
HOMEPAGE: <http://www.gisworld.com>

RECORD TYPE: Review
REVIEW TYPE: Product Analysis
GRADE: Product Analysis, No Rating

REVISION DATE: 19990830

...system (GIS) users do not know data mining and knowledge procedures. To find spatial patterns, **k - means** clustering can be used to discretionally establish two cluster centers in a data space used...

11/3,K/5

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.
(c)2003 Info.Sources Inc. All rts. reserv.

00079725 DOCUMENT TYPE: Review

PRODUCT NAMES: FileWave 2.1.2 (435538)

TITLE: FileWave 2.1.2
AUTHOR: Beckman, Mel
SOURCE: Macworld, v12 n7 p63(2) Jul 1995
ISSN: 0741-8647
HOMEPAGE: <http://www.macworld.com>

RECORD TYPE: Review
REVIEW TYPE: Review
GRADE: A

REVISION DATE: 20020630

Wave Research's FileWave 2.1.2 software distribution utility automates the process of **updating** software across a LAN. The administrator can keep a **central** repository of files, and distribute them transparently to the end-user. The software includes three...
...s desktop. The repository volume appears like any shared volume, although it is a temporary **partition** of the server Mac's hard disk. The system will distribute files **simultaneously** to all specified end-users, and will actually send the data when each user machine...

Set	Items	Descript
S1	121	KMEAN? OR K()MEAN? ?
S2	1119917	CENTROID? OR CENTER? OR CENTRAL? OR MEDIAN? OR MIDPOINT? OR MID()POINT? OR MIDDLE?
S3	459688	CLUSTER? OR MATRIX? OR PARTITION? OR DATA()POINT? OR BOUND-AR?
S4	710337	PARALLEL()PROCESS? OR CONCUR? OR CO()OCCUR? OR COOCCUR? OR SIMULTAN? OR SAME()TIME?
S5	2092376	MOVE? OR REALIGN? OR REASSIGN? OR REDESIGNAT? OR MOVING OR UPDAT? OR UP()(DATE? OR DATING?)
S6	1	S1 AND S4
S7	34	S2(5N)S5 AND S3 AND S4
S8	1	S7 AND IC=G06F?
S9	7	S2 AND S5 AND S3 AND S4 AND (ALGORITHM? OR FORMULA? OR STATISTICAL()METHOD? OR CALCULATION?)
S10	7274	(CLUSTER? OR GROUP? OR DATAPOINT? OR DATA()POINT? OR BOUND-AR?)(2N)S5
S11	69	S10 AND S3 AND S4
S12	22	S11 AND IC=G06F?
S13	31	S6 OR S8 OR S9 OR S12
S14	31	IDPAT (sorted in duplicate/non-duplicate order)
S15	30	IDPAT (primary/non-duplicate records only)
File 344:Chinese Patents Abs Aug 1985-2003/Jan (c) 2003 European Patent Office		
File 347:JAPIO Oct 1976-2002/Oct(Updated 030204) (c) 2003 JPO & JAPIO		
File 350:Derwent WPIX 1963-2003/UD,UM &UP=200313 (c) 2003 Thomson Derwent		

15/5/1 (Item 1 from file: 350)
DIALOG(R) File 350:Derwent WPIX
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014333921 **Image available**
WPI Acc No: 2002-154624/200220
XRAM Acc No: C02-048311
XRPX Acc No: N02-117587

**Performing bioassay to qualitatively and/or quantitatively analyze
molecular interaction between analyte and binding agent involves use of
particle arrays**

Patent Assignee: BIOARRAY SOLUTIONS LTD (BIOA-N)
Inventor: BANERJEE S; CHAU WO C; PODUAL K; XIANG LI A
Number of Countries: 094 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200198765	A1	20011227	WO 2001US20179	A	20010621	200220 B
AU 200172993	A	20020102	AU 200172993	A	20010621	200230

Priority Applications (No Type Date): US 2000213106 P 20000621

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200198765 A1 E 70 G01N-027/26

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA
CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT
RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200172993 A G01N-027/26 Based on patent WO 200198765

Abstract (Basic): WO 200198765 A1

NOVELTY - Performing bioassay involves use of a particle array comprising at least two different particle populations, each population being distinguishable by a binding agent (BA) attached to it, where particles are associated with a chemically or physically distinguishable characteristic that uniquely identifies BA on particles.

DETAILED DESCRIPTION - Performing (M1) a bioassay involves:

(i) providing several particles (I) comprising at least two different particle populations, each population being distinguishable by a BA attached to it, and where the particles arranged in a planar array on a substrate are associated with a chemically or physically distinguishable characteristic that uniquely identifies the BAs on the particles;

(ii) generating a de-coding image (DI) of the array showing the location of each BA in the array;

(iii) contacting the BAs with a sample that may contain an analyte so as to allow the analyte, if present in the sample, to form an analyte-BA complex with one or more BAs, where the formation of each complex results in a corresponding or a proportional change in the optical signature associated with the particles whose BA is involved in the formation of the complex;

(iv) generating an assay image (AI) of the array which detects the change in the optical signature associated with the particles, and deriving from the change in the optical signature the number of analyte-BA complexes formed; and

(v) determining the identity of the analyte in the analyte-BA complex by comparing DI with AI. The method optionally involves providing (I), where the particles are not arranged in a planar array on a substrate; contacting BAs with the sample that may contain an analyte to form an analyte-BA complex with one or more BAs; forming planar array of particles on a substrate; generating AI of the array; generating DI of the array, where DI of the array is generated either before or after generating the assay image; and determining the identity of the analyte in the analyte-BA complex formed by comparing DI with AI.

INDEPENDENT CLAIMS are also included for the following:

(1) integrating (M3) sample preparation and bioassay using magnetic particles involves providing several magnetic particles comprising at least two different particle populations, each population being distinguishable by a recognition molecule attached to it, where the particles are attached to a chemical characteristic that uniquely identifies a biomolecule of interest that selectively binds to the recognition molecule; providing a biological fluid containing biomolecules and allowing the biomolecules to interact with the recognition molecules on the magnetic particles; removing the fluid along with unbound components; transforming the biomolecules bound to the magnetic particles to produce transformed biomolecules, where the transformed biomolecules remain attached to the magnetic particles on which they are synthesized; performing (M1), where the BAs comprise the transformed biomolecules;

(2) performing (M4) a bioassay involving integration of a sample preparation and parallel molecular interaction assay analysis involves providing an apparatus comprising at least a sample preparation compartment and an assay compartment, and a unit for fluidically connecting the sample and the assay compartments; providing, in the sample preparation compartment, a biological fluid containing a biomolecule of interest and several magnetic particles capable of binding to the biomolecule of interest, and allowing the magnetic particles to bind the biomolecules of interest; removing the biological fluid along with unbound components of the fluid, while retaining the magnetic particles and the biomolecules bound to the particles; releasing the biomolecules from the magnetic particles and transporting the biomolecules from the sample preparation compartment to the assay compartment through the fluidic unit; and performing (M1) where the analyte in the bioassay comprises transported biomolecules of interest;

(3) preparing (M5) monodisperse magnetic fluorescent particles involves providing polymeric microparticles and swelling the microparticles in an organic solvent containing one or more magnetic nanoparticles to produce magnetic particles, where the fluorescent dyes and the magnetic nanoparticles are distributed throughout the magnetic particles without being localized at specific locations within the particle; and

(4) an array comprising several magnetic particles comprising at least two different particle populations distinguishable by a chemical characteristic associated with it, where the magnetic particles are assembled on a planar array in a compositionally random manner.

USE - Performing bioassay using a particle array. (M1) is useful for performing qualitative and/or quantitative molecular interaction analysis between two classes of molecules (an analyte and BA). (M1) is useful for determining (M2) elements of a co-affinity **matrix** which describes pair-wise analyte-binding interactions in a competitive multiconstituent equilibrium reaction. The change in optical signature in all the above mentioned method comprises a change in the fluorescence intensity associated with the particles involved in the binding interaction. The AI and DI are compared using a template matching **algorithm**. The planar array is preferably immobilized on the substrate and the particles are associated with a chemically distinguishable characteristic e.g., a fluorophore tag (all claimed).

ADVANTAGE - The methods permit rapid customization of DNA or protein arrays without the need for process redesign and avoid problems contributing to spot-to-spot as well as chip-to-chip variability. Furthermore, the bead array format permits chip-independent characterization of beads as well as optimization of assay conditions. In addition, multiple bead arrays can be formed **simultaneously** in discrete fluid compartments maintained on the same chip, permitting the **concurrent** processing of multiple samples.

DESCRIPTION OF DRAWING(S) - The figure shows the flow process including the production of random encoded bead arrays and their use in multiplexed assays.

pp; 70 DwgNo 1/21

Title Terms: PERFORMANCE; QUALITATIVE; QUANTITATIVE; ANALYSE; MOLECULAR; INTERACT; ANALYTE; BIND; AGENT; PARTICLE; ARRAY

Derwent Class: B04; D16; 03
International Patent Class (Main): G01N-027/26
International Patent Class (Additional): C12P-019/34; G01N-021/00;
G01N-033/553
File Segment: CPI; EPI

15/5/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013735892
WPI Acc No: 2001-220122/200123
XRAM Acc No: C01-065848
XRPX Acc No: N01-156893

Cyclone apparatus for processing and treating sewage has conical section with inlet tube, rotor for creating reverse vortices upstream in cyclonic air-stream, and feed inlet tube

Patent Assignee: JARRETT C G (JARR-I); YOUNDS M W (YOUND-I)
Inventor: JARRETT C G; YOUNDS M W
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
GB 2354232	A	20010321	GB 9918301	A	19990803	200123 B
GB 2354232	B	20011107	GB 9918301	A	19990803	200169

Priority Applications (No Type Date): GB 9918301 A 19990803

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
GB 2354232	A		8	C02F-001/38	
GB 2354232	B			C02F-001/38	

Abstract (Basic): GB 2354232 A

NOVELTY - A cyclone apparatus comprises a conical section with inlet tube; a rotor for creating reverse vortices upstream in a cyclonic air-stream; and a feed inlet tube for feeding the sewage into the centripetal **boundary** envelope, in conical section, within the reverse vortex for treating and processing the sewage in the conical section and in the rotor.

DETAILED DESCRIPTION - A cyclone apparatus comprises a conical section with inlet tube; a rotor for creating reverse vortices upstream in a cyclonic air-stream; and a feed inlet tube for feeding the sewage into the centripetal **boundary** envelope, in conical section, within the reverse vortex for treating and processing the sewage in the conical section and in the rotor. The rotor has an inlet for the **movement** of the air-stream and sewage, and an outlet corridor with exit tube. The wider area of the conical section is 67% the diameter of the rotor.

USE - For processing and treating sewage.

ADVANTAGE - The invention reduces the cost of treatment and enables sewage companies to reduce transport cost. It removes some of the pathogens and dries the sewage at the **same time**.

pp; 8 DwgNo 0/0

Title Terms: CYCLONE; APPARATUS; PROCESS; TREAT; SEWAGE; CONICAL; SECTION; INLET; TUBE; ROTOR; REVERSE; VORTEX; UPSTREAM; CYCLONE; AIR; STREAM; FEED; INLET; TUBE

Derwent Class: D15; P41
International Patent Class (Main): C02F-001/38
International Patent Class (Additional): B04C-005/00; C02F-001/78;
C02F-011/12; C02F-103-00
File Segment: CPI; EngPI

15/5/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013499961 **Image available**
WPI Acc No: 2000-671902/200065

XRPX Acc No: N00-498069

Particle motion estimating method for structures in computer modeling, involves updating local boundary flux estimate among nodes using parallel prefix method, based on which particle motion estimate is calculated

Patent Assignee: UNIV TEXAS A & M SYSTEM (TEXA)

Inventor: JARVIS R D; NELSON P

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6120548	A	20000919	US 9622037	A	19960722	200065 B
			US 97897728	A	19970721	

Priority Applications (No Type Date): US 9622037 P 19960722; US 97897728 A 19970721

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

US 6120548 A 15 G06F-007/60 Provisional application US 9622037

Abstract (Basic): US 6120548 A

NOVELTY - A cell group node is assigned to each of several processors. A cell edge flux, flux functional and source functional for each cell is computed. A new cell internal source term and new cell edge angular flux estimate of cell edge flux, for each cell are calculated. The local **boundary** flux estimate among nodes is updated using a parallel prefix method, based on which particle motion estimate is calculated.

DETAILED DESCRIPTION - The structure is modeled spatially into preset number of cells. A functional relationship describing the particle motion through the structure is formulated. An INDEPENDENT CLAIM is also included for particle motion estimating system.

USE - For estimating particle motion of neutral particles in computer modeling or designing equipments such as nuclear reactors, nuclear devices, medical treatment, diagnostic equipment and also for modeling other particle systems such as rarified gases, semiconductors, vehicular traffic.

ADVANTAGE - The particle motion estimation uses **simultaneous** calculation of cell edge flux estimate to achieve Gauss-seidel convergence rates for the source iteration of particle flux calculations. The estimation also achieves a Gauss-Seidel convergence rates on the source iteration for particle flux estimate calculations using **parallel processors**.

DESCRIPTION OF DRAWING(S) - The figure shows flow chart of iterative method for estimating particle motion.

pp; 15 DwgNo 2/7

Title Terms: PARTICLE; MOTION; ESTIMATE; METHOD; STRUCTURE; COMPUTER;

UPDATE; LOCAL; **BOUNDARY** ; FLUX; ESTIMATE; NODE; PARALLEL; PREFIX; METHOD ; BASED; PARTICLE; MOTION; ESTIMATE; CALCULATE

Derwent Class: T01

International Patent Class (Main): G06F-007/60

International Patent Class (Additional): G06F-017/10 ; G06F-101/00

File Segment: EPI

15/5/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012577792 **Image available**

WPI Acc No: 1999-383899/199932

XRPX Acc No: N99-287397

Integrated circuit chip designing method

Patent Assignee: LSI LOGIC CORP (LSIL-N)

Inventor: ALESHIN S V; ANDREEV A E; KOFORD J S; KUDRYAVTSEV V B; PODKOLZIN A S; ROSEBOOM E M; SCEPANOVIC R

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5909376	A	19990601	US 95560848	A	19951120	199932 B

Priority Applications (No Type Date): US 95560848 A 19951120

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5909376	A		25	G06F-017/50	

Abstract (Basic): US 5909376 A

NOVELTY - **Cluster** cells with each **cluster** assigned to predefined and non-overlapping regions constituting region groups on chip are positioned. **Reassignment** of **clusters** to non-overlapping regions in region group is done. Predefined and non-overlapping regions are recombined to form different groups and **clusters** are **reassigned** until end criteria is attained.

USE - For designing micro electronic integrated circuit chip using programmed digital computer.

ADVANTAGE - **Partitioning** problem is solved by **concurrently** assigning cells to more than two regions. Initial placement is improved using min-cut method. **Cluster** is **moved** from any specific region to another region by sufficient repetition of assignment using alternating jiggles.

DESCRIPTION OF DRAWING(S) - The figure shows flowchart illustrating IC chip designing method.

pp; 25 DwgNo 7/20

Title Terms: INTEGRATE; CIRCUIT; CHIP; DESIGN; METHOD

Derwent Class: T01

International Patent Class (Main): G06F-017/50

File Segment: EPI

15/5/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012370851 **Image available**

WPI Acc No: 1999-176958/199915

XRPX Acc No: N99-130472

Mouse and keyboard switching device - has switching process unit that generates last position of cursor from used display screen to display screen which is going to be used, when shifting from one display screen to another

Patent Assignee: MITSUBISHI ELECTRIC CORP (MITQ)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 11031064	A	19990202	JP 97186109	A	19970711	199915 B

Priority Applications (No Type Date): JP 97186109 A 19970711

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 11031064	A		8	G06F-003/14	

Abstract (Basic): JP 11031064 A

NOVELTY - Switching process units (7,10) generate the last position of a cursor from a used display screen to the display screen which is going to be used next, when shifting from one display screen to another display screen. A structure information memory unit (18) stores the coordinates of each display screen of the display devices. DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a mouse and keyboard switching method.

USE - None given.

ADVANTAGE - Improves processing work since a display screen is **simultaneously** operated using one mouse and one keyboard. Enables using a simple password by setting up a **boundary** layer. Enables **moving** the cursor on a screen having different resolutions. Enables easy identification of the screen. Enables quickly restarting the operation after an interruption. DESCRIPTION OF DRAWING(S) - The figure shows the system block diagram of the mouse and keyboard switching device. (7,10) Switching process unit; (18) Structure information

memory unit.

Dwg.1/12

Title Terms: MOUSE; KEYBOARD; SWITCH; DEVICE; SWITCH; PROCESS; UNIT;
GENERATE; LAST; POSITION; CURSOR; DISPLAY; SCREEN; DISPLAY; SCREEN; SHIFT
; ONE; DISPLAY; SCREEN

Derwent Class: T01; T04

International Patent Class (Main): G06F-003/14

International Patent Class (Additional): G06F-003/00 ; G06F-003/033

File Segment: EPI

15/5/6 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011931079 **Image available**

WPI Acc No: 1998-347989/199830

XRFX Acc No: N98-271679

Parallel processing system for multiple hypothesis tracking
operations - includes central database of radar tracks for processors for
parallel processing

Patent Assignee: RAYTHEON CO (RAYT)

Inventor: GOTTFRIED R L; KUBLER D C; LEDFORD G D; OXFORD S C; ZAHAVI J S

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5765166	A	19980609	US 96636435	A	19960423	199830 B

Priority Applications (No Type Date): US 96636435 A 19960423

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5765166	A		6	G06F-017/30	

Abstract (Basic): US 5765166 A

The system includes a radar producing an input data stream organized as a series of radar tracks. A central database stored in a shared memory that is organized as a collection of the radar tracks. A number of processors are each coupled to the shared memory and the central database, and to the radar and where they are configured such that the next available processor retrieves the next successive measurement **data point** from the input data stream, and updates tracks in the database using each retrieved measurement **data point** .

All processors operate independently without external synchronization, **partitions** the database into noninteracting **clusters** . **Partitioning** is executed in parallel by the number of processors which operate independently without external synchronization, retrieves the next successive **cluster** , forms and selects hypotheses based on the retrieved **cluster** , and **updates** the database based on the selected hypotheses.

ADVANTAGE - Provides efficient use of memory and processing resources. Is fault tolerant.

Dwg.1/2

Title Terms: PARALLEL; PROCESS; SYSTEM; MULTIPLE; HYPOTHESIS; TRACK;

OPERATE; CENTRAL; DATABASE; RADAR; TRACK; PROCESSOR; PARALLEL; PROCESS

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

15/5/7 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011860026 **Image available**

WPI Acc No: 1998-276936/199825

XRFX Acc No: N98-217845

Parallel processing method in hierarchical multi-processor - involves

processing intersection area of loop variable of inner and external loops, for corresponding task execution

Patent Assignee: NEC CORP (NIDE)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 10091591	A	19980410	JP 96261325	A	19960910	199825 B

Priority Applications (No Type Date): JP 96261325 A 19960910

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 10091591	A		10	G06F-015/16	

Abstract (Basic): JP 10091591 A

The method involves storing the first value of a loop variable of an external loop, in a **cluster** communication register (GCR0). When the stored value is accessed by predetermined processor (11) of each **cluster** (1), **updating** of other communication registers of reference **cluster** is performed by suitable instructions and a common share area is established.

The first value of inner loop is stored in other communication register (LCR0). When the loop variable value is acquired by other processors (12-1 - 12-n), updating of reference communication registers of **clusters** is performed and an auto- program area is set for common sharing. The intersecting portion of the loop variable of the inner and external loops is executed as a task, using the share area.

ADVANTAGE - Ensures efficient **parallel processing** . Produces both single and double loop easily.

Dwg.3/6

Title Terms: PARALLEL; PROCESS; METHOD; HIERARCHY; MULTI; PROCESSOR; PROCESS; INTERSECT; AREA; LOOP; VARIABLE; INNER; EXTERNAL; LOOP; CORRESPOND; TASK; EXECUTE

Derwent Class: T01

International Patent Class (Main): G06F-015/16

File Segment: EPI

15/5/8 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011354419 **Image available**

WPI Acc No: 1997-332326/199730

XRPX Acc No: N97-275889

Method of simultaneously moving element included in editing area of drawing displayed on computer display - involves changing co-ordinates of detected drawing elements drawn within specified editing area, based on specified moving distance and specified moving direction

Patent Assignee: CASIO COMPUTER CO LTD (CASK)

Inventor: NAGAI S

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5640499	A	19970617	US 93140577	A	19931021	199730 B
			US 96625838	A	19960401	

Priority Applications (No Type Date): JP 92351602 A 19921209

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5640499	A		11	G06F-015/00	Cont of application US 93140577

Abstract (Basic): US 5640499 A

The method involves displaying a drawing on the display unit. An editing area of the drawing displayed on the display unit is specified with a **boundary** line. A **moving** distance and a moving direction are specified. All drawing elements which are drawn within the specified editing area and all drawing elements which are drawn across the **boundary** line of the specified editing area are detected. The

co-ordinates of the detected drawing elements drawn within the specified editing area and the co-ordinates of the another end points of the detected drawing elements inside the specified editing area are changed based on the specified moving distance and the specified moving direction. All of the detected drawing elements originally drawn across the **boundary** line of the specified editing area between the original co-ordinates of the one end points outside the specified editing area are redrawn.

ADVANTAGE - Edits editing are such that lines included in drawing elements are not left broken in edited drawing.

Dwg.2,3/8

Title Terms: **SIMULTANEOUS** ; MOVE; ELEMENT; EDIT; AREA; DRAW; DISPLAY; COMPUTER; DISPLAY; CHANGE; CO; ORDINATE; DETECT; DRAW; ELEMENT; DRAW; SPECIFIED; EDIT; AREA; BASED; SPECIFIED; MOVE; DISTANCE; SPECIFIED; MOVE; DIRECTION

Derwent Class: T01

International Patent Class (Main): **G06F-015/00**

File Segment: EPI

15/5/9 (Item 9 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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011187581 **Image available**

WPI Acc No: 1997-165506/199715

XRPX Acc No: N97-136255

Process and project management on computer system - has one work process object which supports all modes delimited by dynamically moving boundaries at same time

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)

Inventor: BANDAT K; LEISTEN U; PARNCUTT G; VOESCH E

Number of Countries: 018 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9707472	A1	19970227	WO 95EP3289	A	19950818	199715 B
EP 787332	A1	19970806	EP 95930496	A	19950818	199736
			WO 95EP3289	A	19950818	
JP 9512377	W	19971209	WO 95EP3289	A	19950818	199808
			JP 97508852	A	19950818	
US 6023702	A	20000208	WO 95EP3289	A	19950818	200014
			US 98765848	A	19981210	

Priority Applications (No Type Date): WO 95EP3289 A 19950818

Cited Patents: 5.Jnl.Ref; WO 9418620

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9707472 A1 E 79 G06F-017/60

Designated States (National): JP US

Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE

US 6023702 A G06F-017/30 Based on patent WO 9707472

EP 787332 A1 E G06F-017/60 Based on patent WO 9707472

Designated States (Regional): DE FR GB

JP 9512377 W 73 G06F-017/60 Based on patent WO 9707472

Abstract (Basic): WO 9707472 A

The method of process and project management involves using process instances which are represented by digital data and derived from a process schema. Project instances are represented by digital data. These are derived from a process instance or from a project schema. A work process object (1001) in a database is created.

Data concerning the process and project management is reported to the work process object. The work process object is used as well as a common database. The work process object has a structure of a directed graph. It is evolved in stages.

USE/ADVANTAGE - For product design, development and manufacture. Allows dynamic changes with only minimum computing and storage

requirements. Provide user with lots of information.

Dwg.10/10

Title Terms: PROCESS; PROJECT; MANAGEMENT; COMPUTER; SYSTEM; ONE; WORK;
PROCESS; OBJECT; SUPPORT; MODE; DELIMIT; DYNAMIC; MOVE; **BOUNDARY** ; TIME
Derwent Class: T01
International Patent Class (Main): **G06F-017/30 ; G06F-017/60**
International Patent Class (Additional): **G06F-009/06**
File Segment: EPI

15/5/10 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010960472 **Image available**

WPI Acc No: 1996-457421/199646

XRPX Acc No: N96-385458

Error correction device for aircraft magnetometer - has calculation modules connected to magnetometer and estimating coefficients of perturbation and translation matrices while central module selects and applies correction model, results being transmitted to analysis device

Patent Assignee: EUROCOPTER FRANCE (EURO-N); EUROCOPTER FRANCE SA (EURO-N)

Inventor: ASSOUS E C; PETILLON J; PETILLON J P

Number of Countries: 005 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 737866	A1	19961016	EP 96400438	A	19960301	199646 B
FR 2732773	A1	19961011	FR 954241	A	19950410	199648
US 5682335	A	19971028	US 96631703	A	19960409	199749

Priority Applications (No Type Date): FR 954241 A 19950410

Cited Patents: US 4611293; US 4870602; US 4972593; US 5182514

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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EP 737866	A1	F	28	G01R-033/025	
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Designated States (Regional): DE GB IT

US 5682335	A	15	G01C-021/00
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FR 2732773	A1		G01R-033/00
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Abstract (Basic): EP 737866 A

The device (1) includes a **calculation** module (5) connected to a magnetometer (2) via a bus (4). A multiple connection (6) transmits all the information required about the aircraft on which the magnetometer is mounted. The **calculation** module uses a bespoke **algorithm** to calculate a **matrix** (E) whose coefficients represent the characteristic parameters of all the perturbations affecting the magnetometer.

A second **calculation** module (7) collects data through other two links (8,9) and calculates the coefficients of a translation **matrix** (M). A **central** module (10) is connected to the magnetometer and the **calculation** modules and determines the correction model to be applied to calculate the effective magnetic field. The results are transmitted via a link (13) to an analysis device.

USE - For correcting magnetic field measurement errors.

ADVANTAGE - Can correct errors due to magnetic perturbations as well as those generated by other causes, e.g. mechanical perturbations. Is accurate in detecting and correcting errors due to various cause. Error detection and correction are done **simultaneously** . Has simplified structure.

Dwg.1/5

Title Terms: ERROR; CORRECT; DEVICE; AIRCRAFT; MAGNETOMETER; CALCULATE;
MODULE; CONNECT; MAGNETOMETER; ESTIMATE; COEFFICIENT; PERTURBATION;
TRANSLATION; **MATRIX ; CENTRAL** ; MODULE; SELECT; APPLY; CORRECT; MODEL;
RESULT; TRANSMIT; ANALYSE; DEVICE

Derwent Class: S01; S02; W06

International Patent Class (Main): G01C-021/00; G01R-033/00; G01R-033/025

International Patent Class (Additional): G01C-017/38; G01C-021/08;

G06F-019/00

15/5/11 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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010904921 **Image available**
WPI Acc No: 1996-401872/199640
Related WPI Acc No: 1996-139285; 1996-139286; 1996-160031; 1996-209042;
1996-251352; 1996-370951
XRPX Acc No: N96-338598

Adaptive parameter kernel processor for radio communications in presence of non-Gaussian interference - concurrently executing copies of signal processing algorithms, partitioning signal magnitudes into sets, applying different probability density function to form average gain factor and finding min. factors

Patent Assignee: US SEC OF NAVY (USNA)
Inventor: BOND J W; SCHLOSSET T W
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5550759	A	19960827	US 91707352	A	19910529	199640 B
			US 91707354	A	19910529	
			US 91713659	A	19910611	
			US 91713660	A	19910611	
			US 91766618	A	19910925	
			US 91766605	A	19910926	
			US 95511675	A	19950807	

Priority Applications (No Type Date): US 91707352 A 19910529; US 91707354 A 19910529; US 91713659 A 19910611; US 91713660 A 19910611; US 91766618 A 19910925; US 91766605 A 19910926; US 95511675 A 19950807

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5550759	A		8	H04B-015/00	Cont of application US 91707352
					Cont of application US 91707354
					Cont of application US 91713659
					Cont of application US 91713660
					Cont of application US 91766618
					Cont of application US 91766605
					Cont of patent US 5495496
					Cont of patent US 5495497
					Cont of patent US 5499399
					Cont of patent US 5509032
					Cont of patent US 5517531

Abstract (Basic): US 5550759 A

The adaptive parameter kernel processor generates a signal magnitude value for each signal sample, **partitions** the signal magnitude values into sets, and **concurrently** executes multiple copies of the ALOD signal processing **algorithm**. Each copy of the signal processing **algorithm** applies a probability density function to the sets of signal magnitude values, generating a gain factor for each set.

The probability density function includes a parameter that has a different value in each copy of the signal processing **algorithm**. Each copy of the signal processing **algorithm** generates an average gain factor associated with the corresponding parameter value. The parameter values are **updated** respectively in the multiple copies of the signal processing **algorithm** by a parameter comparator to cause the parameter value associated with the minimum average gain factor to approach the **midpoint** of the parameter values. An output signal is formed from the signal samples and an arithmetic function of the average gain factor associated with the **midpoint** of the parameter values.

USE/ADVANTAGE - Adaptive parameter kernel processor uses adaptive locally optimum detection (ALOD) signal processing **algorithm** to suppress interfering signals in communications signal. Enhanced signal-to-noise ratio.

Dwg.3/4

Title Terms: ADAPT; PARAMETER; KERNEL; PROCESSOR; RADIO; COMMUNICATE; PRESENCE; NON; GAUSS; INTERFERENCE; **CONCURRENT** ; EXECUTE; COPY; SIGNAL; PROCESS; **ALGORITHM** ; **PARTITION** ; SIGNAL; MAGNITUDE; SET; APPLY; PROBABILITY; DENSITY; FUNCTION; FORM; AVERAGE; GAIN; FACTOR; FINDER; MINIMUM; FACTOR

Derwent Class: T01; W02

International Patent Class (Main): H04B-015/00

File Segment: EPI

15/5/12 (Item 12 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010734831 **Image available**

WPI Acc No: 1996-231786/199624

Related WPI Acc No: 1997-401347; 1998-332467

XRPX Acc No: N96-194504

Obtaining graphical display of reduced-view spectrometer sections on computer system - has windows program which permits on screen comparison and/or manipulation of different spectrometer sections using overlay window to reduce risk of interpretation error

Patent Assignee: BIO-RAD LAB INC (BIRA)

Inventor: BARBER L L; CARTER P V; OSLOM M L; OLSON M L

Number of Countries: 003 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 19540126	A1	19960509	DE 1040126	A	19951027	199624 B
US 5579462	A	19961126	US 94333955	A	19941103	199702
JP 8286656	A	19961101	JP 95282715	A	19951031	199703
JP 3252082	B2	20020128	JP 95282715	A	19951031	200214

Priority Applications (No Type Date): US 94333955 A 19941103

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 19540126	A1	26	G01J-003/02		
US 5579462	A	23	G06F-015/00		
JP 8286656	A	19	G09G-005/36		
JP 3252082	B2	19	G01J-003/02		Previous Publ. patent JP 8286656

Abstract (Basic): DE 19540126 A

The graphical display method involves a computer which uses a windows program, with which a direct comparison can be made between the spectra through **simultaneous** display on the VDU, whether alongside or by superimposition. By comparing selected **data points** on the display against relative indicators a difference spectrum showing differences between the test spectrum and the reference can be produced.

Sections of the spectrum can be analysed in greater detail with on screen wavelength measurement. A database of spectrum analyses can be built up and a spectral library including name and index information created for subsequent use. The system uses reduction and enlargement of the spectra in a radial window and point-and-click graphic icons.

ADVANTAGE - Improved user interface reduces risk of error in analysis and enables build up of complete spectrum graphics and analyses for further use, enabling user to intuitively and interactively manipulate spectral data e.g. to perform spectral subtraction.

Dwg.1/20

Title Terms: OBTAIN; GRAPHICAL; DISPLAY; REDUCE; VIEW; SPECTROSCOPE; SECTION; COMPUTER; SYSTEM; WINDOW; PROGRAM; PERMIT; SCREEN; COMPARE; MANIPULATE; SPECTROSCOPE; SECTION; OVERLAY; WINDOW; REDUCE; RISK; INTERPRETATION; ERROR

Derwent Class: P85; S01; 003
International Patent Class (Main): G01J-003/02; G06F-015/00 ; G09G-005/36
International Patent Class (Additional): G01N-021/25; G01N-021/27;
G01R-023/18; G06F-003/14
File Segment: EPI; EngPI

15/5/13 (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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010642385 **Image available**
WPI Acc No: 1996-139339/199614
XRPX Acc No: N96-116780

Exchanging data between neighbouring mesh connected distributed memory parallel processors - locally storing 1st data received from 1st neighbour in position related to that of 1st neighbour, forwarding 2nd data to next neighbour and locally storing in position related to that of forwarding neighbour

Patent Assignee: EASTMAN KODAK CO (EAST)
Inventor: COK R S
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5495618	A	19960227	US 92935499	A	19920826	199614 B

Priority Applications (No Type Date): US 92935499 A 19920826

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5495618	A		17	G06F-015/16	

Abstract (Basic): US 5495618 A

A first stage exchanges locally stored data with each of the four neighbour processors, and then a second stage exchanges the data just received from each processor with a different one of the same four processors. The mesh connection does not provide connections between processors in a diagonal direction. The first set of exchanges provides data from the processors on the left, right, above, and below which augments the local data tile on the corresponding side.

The second set of exchanges provides the data from neighbours in the upper left corner, the upper right corner, the bottom right corner, and the bottom left corner in a transfer from the processors above, right, below and left, respectively. During the exchanges **data pointers move** in a direction opposite to the direction of data flow.

ADVANTAGE - Optimises inter-processor bandwidth while maintaining consistency with typical data storage structures. Simple two-stage data exchange that operates for two or more dimensional data sets.

Dwg.6,10,1

4

Title Terms: EXCHANGE; DATA; NEIGHBOURING; MESH; CONNECT; DISTRIBUTE; MEMORY; PARALLEL; PROCESSOR; LOCAL; STORAGE; DATA; RECEIVE; NEIGHBOURING; POSITION; RELATED; NEIGHBOURING; FORWARDING; DATA; NEIGHBOURING; LOCAL; STORAGE; POSITION; RELATED; FORWARDING; NEIGHBOURING

Derwent Class: T01

International Patent Class (Main): G06F-015/16
International Patent Class (Additional): G06F-009/00 ; G06F-009/30
File Segment: EPI

15/5/14 (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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010618969 **Image available**
WPI Acc No: 1996-115922/199612
XRPX Acc No: N96-096983

Modification time updating method of file in cluster system - by

allowing each client to simultaneously update their local copy of
modification time field of shared file

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: DEVARAKONDA M V; KISH W A; MOHINDRA A; ZLOTEK A J
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5490270	A	19960206	US 94260867	A	19940616	199612 B

Priority Applications (No Type Date): US 94260867 A 19940616

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5490270	A		14	G06F-017/30	

Abstract (Basic): US 5490270 A

The method involves maintaining at each of the clients, a locally cached copy of the modification time field of the shared file. Each of the clients are allowed to **simultaneously** update their local copy of the modification time. The local copies are reconciled whenever one of the clients requests to read the modification time.

An exclusive-write lock is granted to the client on the modification time field of the shared file by a server when the client is requested to explicitly set the modification time. Separate copies are reconciled when a cache flush of a memory storing the modification time occurs.

ADVANTAGE - Avoids contention among nodes in system. Allows multiple nodes **cluster** to **update** modification time of single file **simultaneously** while guaranteeing that modification time of that file will be accurately reflected for any reader of modification time.

Dwg.1/7

Title Terms: MODIFIED; TIME; UPDATE; METHOD; FILE; **CLUSTER** ; SYSTEM; ALLOW ; CLIENT; **SIMULTANEOUS** ; UPDATE; LOCAL; COPY; MODIFIED; TIME; FIELD; SHARE; FILE

Derwent Class: T01

International Patent Class (Main): **G06F-017/30**

File Segment: EPI

15/5/15 (Item 15 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009838086 **Image available**

WPI Acc No: 1994-117942/199414

XRPX Acc No: N94-092444

Data transfer system between registers in microcomputer - transfers data directly from source register in register file connected to data bus from destination register in register file, through read data latch, data bus by-pass, and write data latch.

Patent Assignee: MITSUBISHI DENKI KK (MITQ)

Inventor: HIGUCHI R; MIZUGAKI S

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5303354	A	19940412	US 92909868	A	19920707	199414 B

Priority Applications (No Type Date): JP 91193504 A 19910708

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5303354	A		12	G06F-009/00	

Abstract (Basic): US 5303354 A

The system has a data bus and a number of registers organised as a register file. A read data latch couples the data bus to a selected register in the register file. The read data latch includes a control input, wherein a read signal asserted on the control input of the read data latch causes the read data latch to apply contents of the selected register to the data bus. A write data latch couples the data bus to a

second selected register in the register file.

The write data latch includes a control input, wherein a write signal asserted on the control input of the write data latch causes the write data latch to apply contents of the data bus to the second selected register. A bypass controller, coupled between the read data latch and the write data latch, transfers the contents of the read data latch to the write data latch in response to a bypass signal. The bypass controller bypasses the data bus in making the transfer.

ADVANTAGE - Update of data pointer is possible concurrently with transfer of data between source register and destination register. Faster data transfer.

Dwg.1/8

Title Terms: DATA; TRANSFER; SYSTEM; REGISTER; MICROCOMPUTER; TRANSFER; DATA; SOURCE; REGISTER; REGISTER; FILE; CONNECT; DATA; BUS; DESTINATION; REGISTER; REGISTER; FILE; THROUGH; READ; DATA; LATCH; DATA; BUS; BY-PASS; WRITING; DATA; LATCH

Derwent Class: T01

International Patent Class (Main): G06F-009/00

File Segment: EPI

15/5/16 (Item 16 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008331456 **Image available**

WPI Acc No: 1990-218457/199029

XRPX Acc No: N90-169543

Sorting method for parallel processors - partitions into P lists, partitions into sizes, after redistributing and sorting when no merge is needed

Patent Assignee: IBM CORP (IBM) ; INT BUSINESS MACHINES CORP (IBM)

Inventor: IYER B R; RICARD G S; VARMAN P J; RICARD G R

Number of Countries: 004 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 378038	A	19900718	EP 89480181	A	19891206	199029 B
US 5179699	A	19930112	US 89297634	A	19890113	199305

Priority Applications (No Type Date): US 89297634 A 19890113

Cited Patents: 3.Jnl.Ref; A3...9118; NoSR.Pub

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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EP 378038	A				
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Designated States (Regional): DE FR GB

US 5179699	A	17	G06F-007/06
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Abstract (Basic): EP 378038 A

The problem is that in which a large number of elements needs to be sorted and where a number of processors is available. Clearly the sorting time is divided by the number of processors if small lists are sorted in parallel, but the time taken to merge the sorted lists reduces this advantage. In this method the initial list is divided into P smaller; and approximately equal, lists where P is the number of processors. Then, instead of just sorting the lists, each processor sorts and then **partitions** its list into P approximately equal lists such that all the elements in the bottom lists are less than any in the next, and so on. All the bottom lists are then given to one processor to sort, all the second lists to another and so on. After a simple merge sort it is only necessary to string the lists together, without any merging, to obtain the sorted list.

ADVANTAGE - Gives faster sorting than previous parallel methods.

(50pp Dwg.No.3/3

Title Terms: SORT; METHOD; PARALLEL; PROCESSOR; **PARTITION** ; P; LIST; **PARTITION** ; SIZE; AFTER; REDISTRIBUTE; SORT; NO; MERGE; NEED

Derwent Class: T01

International Patent Class (Main): G06F-007/06

International Patent Class (Additional): G06F-007/16 ; G06F-007/36 ;

15/5/17 (Item 17 from file: 350)
DIALOG(R) File 350: Derwent WPIX
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008293429 **Image available**
WPI Acc No: 1990-180430/199024
XRPX Acc No: N90-140237

Retro-propagation of errors in neutral network - uses multiple processors with two processing groups to compare results of learning from examples, and back propagates errors
Patent Assignee: PHILIPS ELECTRONICS NV (PHIG); LEP LAB ELECTRONIQUE PHILIPS (PHIG); LAB ELECTRONIQUE PHILIPS SAS (PHIG); US PHILIPS CORP (PHIG)

Inventor: SIRAT J A; SIRAT J
Number of Countries: 008 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 372613	A	19900613	EP 89202979	A	19891123	199024 B
FR 2639736	A	19900601				199029
EP 372613	B1	19960207				199610
DE 68925625	E	19960321	DE 625625	A	19891123	199617
			EP 89202979	A	19891123	
US 5517598	A	19960514	US 89441141	A	19891122	199625
			US 91767348	A	19910927	
			US 93275911	A	19930128	

Priority Applications (No Type Date): FR 8815428 A 19881125
Cited Patents: 1.Jnl.Ref; WO 8807234
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 372613	A				
					Designated States (Regional): CH DE FR GB IT LI SE
EP 372613	B1	F	16	G06F-015/80	
					Designated States (Regional): CH DE FR GB IT LI SE
DE 68925625	E			G06F-015/80	Based on patent EP 372613
US 5517598	A		9	G06F-015/18	Cont of application US 89441141
					Cont of application US 91767348

Abstract (Basic): EP 372613 A

The error retro-propagation is used in a layered neural network. The first step is a resolution process which determines for each layer the states of the output neurons relative to the states of the input neurons. The next step is the **updating** of the synaptic coefficients (Cij) during a learning process using teaching by example.

The system uses two groups of computation functions implementing a learning phase operating on two examples. The implementation of the retro-propagation **algorithm** is in the second processing group. The desired neuron output state is compared with the actual neuron output state, and any errors are propagated backwards through the network. The synaptic coefficient **matrix** and the transposed **matrix** of the second group are generated **simultaneously**.

USE/ADVANTAGE - E.g. in recognition of characters, or forms.

Improved processing speed in layered neural network implemented on parallel computation architecture. (13pp Dwg.No.1/3

Title Terms: RETRO; PROPAGATE; ERROR; NEUTRAL; NETWORK; MULTIPLE; PROCESSOR ; TWO; PROCESS; GROUP; COMPARE; RESULT; LEARNING; EXAMPLE; BACK; PROPAGATE; ERROR

Derwent Class: T01; T04

International Patent Class (Main): G06F-015/18; G06F-015/80

International Patent Class (Additional): G06F-015/31; G06K-009/62

File Segment: EPI

DIALOG(R)File 350:Derwent PIX
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003788112

WPI Acc No: 1983-784341/198341

XRPX Acc No: N83-179292

**Feature extraction sorter for visual image processing system - uses
dedicated hardware modules which digitally process video image and
automatically identifies closed edge contours**

Patent Assignee: GENERAL ELECTRIC CO (GENE)

Inventor: BEALL D L; HART W G; TOMLINSON H W

Number of Countries: 008 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 90395	A	19831005				198341 B
US 4490848	A	19841225	US 82363665	A	19820331	198502
US 4493105	A	19850108	US 82363664	A	19820331	198504
CA 1197595	A	19851203				198602
CA 1197607	A	19851203				198602
EP 90395	B	19900829				199035
DE 3381833	G	19901004				199041

Priority Applications (No Type Date): US 82363665 A 19820331; US 82363664 A 19820331

Cited Patents: 1.Jnl.Ref; A3...8713; No-SR.Pub

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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EP 90395	A	E	95		
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Designated States (Regional): DE FR GB IT NL SE

EP 90395	B				
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Designated States (Regional): DE FR GB IT NL SE

Abstract (Basic): EP 90395 A

The visual image processing system is divided into a video processing subsystem (200), an image processing subsystem (300) and an overall system/decision processing subsystem (400). In the image processing subsystem a corner point encoder (301) identifies and encodes corner points in an input frame of binary-valued video data from the image plane memory (202). The feature extractor/sorter (302) identifies and constructs closed link sets of corner points identified by the encoder.

Each time a corner point is added to a linked chain an incremental **calculation** is made of the area, **centroid**, perimeter, principal angle, maximum-minimum x-y **boundaries** and so on. This effects an overall time saving as compared with waiting for a complete closed edge **boundary** to be identified. This arises from the **calculation** of the increments **simultaneously** with the image processor initiating identification of another corner point. The system is applied to testing the geometry of manufactured parts (100) on a **moving** conveyor belt

Title Terms: FEATURE; EXTRACT; SORT; VISUAL; IMAGE; PROCESS; SYSTEM;

DEDICATE; HARDWARE; MODULE; DIGITAL; PROCESS; VIDEO; IMAGE; AUTOMATIC;

IDENTIFY; CLOSE; EDGE; CONTOUR

Derwent Class: T01; T04; W02; W04; X25

International Patent Class (Additional): G06F-015/20; G06K-009/48

File Segment: EPI

15/5/19 (Item 19 from file: 347)

DIALOG(R)File 347:JAPIO

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06192608

Image available

DISPLAY METHOD FOR SCREEN WINDOW

PUB. NO.: 11-134159 [JP 11134159 A]

PUBLISHED: May 21, 1999 (19990521)

INVENTOR(s): TSUBOI JUNICHI

TEI RITSU
APPLICANT(s): YAMATAKE CORP
APPL. NO.: 09-295992 [JP 97295992]
FILED: October 28, 1997 (19971028)
INTL CLASS: G06F-003/14

ABSTRACT

PROBLEM TO BE SOLVED: To properly relocate the screen windows.

SOLUTION: When an operator selects the **boundary** of a 1st window whose size is changed and then designates the **movement** of the **boundary**, the size of the 1st window is changed. At the **same time**, the other windows are also changed into each proper size with no overlapping of these windows. The size of the window 10a is increased when a pointer 11 is set at the **boundary** among windows 10a to 10d and then moved with a button of a pointing device kept depressed (Fig. a). Meanwhile, other windows 10b to 10d are adjusted in each proper size in response to the movement of the selected **boundary** (Fig. b).

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15/5/20 (Item 20 from file: 347)
DIALOG(R)File 347:JAPIO
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05532125 **Image available**
COMPUTING DEVICE

PUB. NO.: 09-146925 [JP 9146925 A]
PUBLISHED: June 06, 1997 (19970606)
INVENTOR(s): TANAKA SHINICHI
SHUDO SHIGEO
APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 07-304090 [JP 95304090]
FILED: November 22, 1995 (19951122)
INTL CLASS: [6] G06F-017/12 ; G06F-017/16 ; G06F-017/50
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications)

ABSTRACT

PROBLEM TO BE SOLVED: To efficiently find numerical solutions for **simultaneous** linear equation at all times by performing processing at to a skyline column group selected in order according to a skyline column information table.

SOLUTION: Retrieval from a column head address table NP is performed to extract a skyline column group having their upper ends of the column successively trued up from a skyline **matrix** A, and the number indicating the column at the head of the obtained skyline column group is stored in the skyline column information table ITBL in linear array (step 101). And, the number of the skyline columns constituting the skyline column **group** to be **updated** which is specified with a loop control variable I is set to an operation variable IBEL (step 105) and an initial value (=1) is set to a loop control variable J specifying a skyline column group to be referred to (step 106), thereby starting the low-order loop of steps 107-111.

15/5/21 (Item 21 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2003 JPO & JAPIO. All rts. reserv.

04763907 **Image available**
CIPHERING AND DECIPHERING DEVICE FOR DATA SECURITY PROTECTION DEVICE

PUB. NO.: 07-056507 [JP 7056507 A]
PUBLISHED: March 03, 1995 (19950303)

INVENTOR(s): MIYAUCHI HIROSHI
AWATA KAZUTOYO
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 05-200875 [JP 93200875]
FILED: August 12, 1993 (19930812)
INTL CLASS: [6] G09C-001/00; G06F-012/00
JAPIO CLASS: 44.9 (COMMUNICATION -- Other); 45.2 (INFORMATION PROCESSING
-- Memory Units)

ABSTRACT

PURPOSE: To eliminate special operation when individual keys are lost, etc., by storing the individual keys as key information with files.

CONSTITUTION: The identification information of the file 11 having data M is inputted to a file identification information input part 101 and the data M is read by a file reading part 105. The read data is enciphered to a cryptogram (c) by a shared cryptographic key of a ciphering part 106 using an individual key (k) inputted by an individual key 102 and made (c)=Ek(M). Ek(M) means that M is enciphered by the key (k) using a supplying cryptographic key. At the same time, the individual key (k) is converted into key information lk by an open key (e) inputted by an open key input part 103 using a key information generation part 104 and made lk=E(e, k). E(e, k) means that the (k) is enciphered by the open key (e) using the open cryptographic key. Then, the key information lk is added to the cryptogram (c) using an individual key information adding part 107 and a cryptographic file 12 is generated.

15/5/22 (Item 22 from file: 347)
DIALOG(R) File 347:JAPIO
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03747288 **Image available**
STRAIGHT LINE PLOTTING DEVICE

PUB. NO.: 04-112388 [JP 4112388 A]
PUBLISHED: April 14, 1992 (19920414)
INVENTOR(s): SUZUKI HIROYUKI
APPLICANT(s): FUJI ELECTRIC CO LTD [000523] (A Japanese Company or Corporation), JP (Japan)
FUJI FACOM CORP [470926] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 02-233040 [JP 90233040]
FILED: September 03, 1990 (19900903)
INTL CLASS: [5] G06F-015/72 ; G09G-005/20
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications); 44.9 (COMMUNICATION -- Other)
JOURNAL: Section: P, Section No. 1397, Vol. 16, No. 365, Pg. 58, August 06, 1992 (19920806)

ABSTRACT

PURPOSE: To execute the plotting at a higher speed by selecting two pieces of small blocks by following the straight line generating direction so that the parallel plotting processing can be executed.

CONSTITUTION: A boundary and oblique movement deciding means 42, a memory control means 43, a memory address generating means 44, a plotting block selecting means 45, and block data arithmetic parts 46, 47 are used, and when a parallel plotting condition is formed between that which corresponds to order of plotting of small blocks arranged along a straight line of a plotting object and the small block of the next order, plotting data of these two small blocks are stored (that is, plotted in parallel) simultaneously in an image memory 3, and on the other hand, unless its condition is formed, only the plotting data of the small block corresponding to order of plotting is plotted singly in the image memory 3. Therefore, each small block plotted in parallel is connected to any of upper, lower, or left and right ones in accordance with a state. In such a

way, the number of times of an access to the image memory at the time of plotting a straight line is reduced.

15/5/23 (Item 23 from file: 347)

DIALOG(R)File 347:JAPIO

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03606751 **Image available**
DATA ACCESS CONTROL SYSTEM

PUB. NO.: 03-269651 [JP 3269651 A]
PUBLISHED: December 02, 1991 (19911202)
INVENTOR(s): WATABE TORU
NODA TAKAHITO
KAMISAKA YUJI
NONOMURA KAZUYASU
MARUYAMA TAKUMI
TAKENO TAKUMI
KATO SHINYA

APPLICANT(s): FUJITSU LTD [000522] (A Japanese Company or Corporation), JP
(Japan)

APPL. NO.: 02-069397 [JP 9069397]
FILED: March 19, 1990 (19900319)

INTL CLASS: [5] G06F-012/04

JAPIO CLASS: 45.2 (INFORMATION PROCESSING -- Memory Units)

JOURNAL: Section: P, Section No. 1319, Vol. 16, No. 85, Pg. 112,
February 28, 1992 (19920228)

ABSTRACT

PURPOSE: To attain a read access regardless of a **boundary** by setting the first address of the access data to an address register and the byte length of the access data to a counter respectively.

CONSTITUTION: The initial data are set to a read counter 4 and a read address register 6 with an instruction of a control circuit 3. Then the register 6 is updated to the value of the next bus **boundary** by an **updating** circuit 7 every time a read access is carried out with an instruction of the circuit 3. At the **same time**, the byte number of the read data is set to the counter 4. Then the byte number updated by that of the next bus **boundary** via an RC updating circuit 5 is set to the counter 4 every time a read access is carried out with the address of the register 6. However 0 is set to the counter 4 if the output of the circuit 5 is less than 0. Thus the value of the counter 4 is not reduced down to 0 or less and stopped at 0. When the contents of the counter 4 are equal to 0, the read access is suppressed and no updating operation is carried out.

15/5/24 (Item 24 from file: 347)

DIALOG(R)File 347:JAPIO

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03450650 **Image available**
VIRTUAL STORAGE CONTROL SYSTEM AND COMPUTER SYSTEM

PUB. NO.: 03-113550 [JP 3113550 A]
PUBLISHED: May 14, 1991 (19910514)
INVENTOR(s): SAITO MASAHIKO
YAMAGUCHI SHINICHIRO
KAMIWAKI TADASHI
KOBAYASHI YOSHIKI
NAKAMURA TOMOAKI

APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP
(Japan)

APPL. NO.: 01-250531 [JP 89250531]
FILED: September 28, 1989 (19890928)

INTL CLASS: [5] G06F-012/08

JAPIO CLASS: 45.2 (INFORMATION PROCESSING -- Memory Units)

JOURNAL: Section: P, Section No. 1237, Vol. 15, No. 316, Pg. 43,

August 13, 1991 (19910813)

ABSTRACT

PURPOSE: To attain the flexible stack control by dividing a virtual space into plural basic areas (user pages) and allocating the areas of virtual spaces to the stacks for each user page.

CONSTITUTION: An overflow detection means 91 and an underflow detection means 92 refer to the reference inhibition areas formed at both ends or a single end of a user page or monitor whether a stack button **moved** over the **boundary** of the user page or not. Thus both means 91 and 92 detect the overflow and the underflow of a stack. At the **same time**, a user page allocating means 93 retrieves an unused user page and allocates this page to the stack. Then a user page opening means 94 opens the unused pages as the unused user pages. As a result, the stack size can be dynamically changed.

15/5/25 (Item 25 from file: 347)

DIALOG(R)File 347:JAPIO

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03421735 **Image available**

PROGRAM PARALLEL CONVERSION SYSTEM AND DEVICE USING THE SYSTEM

PUB. NO.: 03-084635 [JP 3084635 A]

PUBLISHED: April 10, 1991 (19910410)

INVENTOR(s): KIKUCHI SHUJI
HAMABE KAZUTOMO
KAWAGUCHI IKUO

APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP
(Japan)

APPL. NO.: 01-220248 [JP 89220248]

FILED: August 29, 1989 (19890829)

INTL CLASS: [5] G06F-009/45 ; G06F-015/16

JAPIO CLASS: 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units);
45.4 (INFORMATION PROCESSING -- Computer Applications)

JOURNAL: Section: P, Section No. 1222, Vol. 15, No. 262, Pg. 44, July
03, 1991 (19910703)

ABSTRACT

PURPOSE: To obtain the parallel programs having various loop structures with no conflict in a systematic method by **moving** the loop **boundary** via a loop processing function during the program parallel conversion and setting each **boundary** at a position where no conflict is produced.

CONSTITUTION: A **parallel processing** function includes a loop section recognizing function 12 which produces the loop information 13 based on the state of a parallel subject program 9, a loop evolving function 14, a loop section moving function 15, an instruction collecting/converting function 16 which collects N pieces of instructions to produce an arithmetic instruction for parallel actions and an output instruction, an instruction collecting/converting rule 17, and a **parallel process** execution control function 11. Then the intra-loop step number is set at an integer multiple of the number of processors with a loop processing function applied during a program parallel conversion process. At the **same time**, the instructions are collected for each number of processors and a parallel conversion process is carried out after **moving** the loop **boundary** to a position where no conflict is produced. Thus it is possible to produce the parallel programs having various loop structures with no conflict in a systematic method.

15/5/26 (Item 26 from file: 347)

DIALOG(R)File 347:JAPIO

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03415916 **Image available**

MOUSE INPUT SYSTEM

PUB. NO.: 03-078816 [JP 3078816 A]
PUBLISHED: April 04, 1991 (19910404)
INVENTOR(s): ISHIZU YUJI
APPLICANT(s): MATSUSHITA ELECTRIC IND CO LTD [000582] (A Japanese Company
or Corporation), JP (Japan)
APPL. NO.: 01-215109 [JP 89215109]
FILED: August 23, 1989 (19890823)
INTL CLASS: [5] G06F-003/033 ; G06F-003/033
JAPIO CLASS: 45.3 (INFORMATION PROCESSING -- Input Output Units)
JAPIO KEYWORD: R131 (INFORMATION PROCESSING -- Microcomputers &
Microprocessors); R139 (INFORMATION PROCESSING -- Word
Processors)
JOURNAL: Section: P, Section No. 1219, Vol. 15, No. 247, Pg. 119, June
25, 1991 (19910625)

ABSTRACT

PURPOSE: To improve the operability of a mouse by providing a function which enables a cursor to move around between the upper and lower ends and the right and left ends of a movable area of a display screen.

CONSTITUTION: A mouse input device 1 transmits the electric signals to a mouse control part 2 in accordance with its moving variable. When the part 2 starts its action, a cursor around-movement switch is turned on or off in response to an application or non-application state of an around-movement function of a mouse cursor. When a signal is received from the device 1, the cursor is moved over the boundary of a movable area of the mouse cursor. At the same time, the cursor is moved to the opposite boundary, then moved more in accordance with the moving variable of the mouse. As a result, the mouse cursor can be instantaneously moved round to one of both ends of the movable area from the other end. Then the operation of the mouse is facilitated.

15/5/27 (Item 27 from file: 347)

DIALOG(R) File 347:JAPIO

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02687484 **Image available**

PICTURE RESTRICTING COLOR DISPLAY DEVICE

PUB. NO.: 63-304384 [JP 63304384 A]
PUBLISHED: December 12, 1988 (19881212)
INVENTOR(s): KAJIMOTO KAZUO
APPLICANT(s): MATSUSHITA ELECTRIC IND CO LTD [000582] (A Japanese Company
or Corporation), JP (Japan)
APPL. NO.: 62-140281 [JP 87140281]
FILED: June 04, 1987 (19870604)
INTL CLASS: [4] G06F-015/72
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications)
JOURNAL: Section: P, Section No. 852, Vol. 13, No. 138, Pg. 57, April
06, 1989 (19890406)

ABSTRACT

PURPOSE: To select the restricted number of colors from an inputted image with the small consumption of a memory by forming a cluster specification art and a histogram forming part, and simultaneously executing histogram formation and clustering.

CONSTITUTION: When an image to be displayed is inputted to an image input part 11, the cluster specification part 12 specifies the neighboring area of picture element data in a color space around the data as a cluster. The histogram forming part 13 updates the frequency of the center color of the cluster to which the picture element data belong to form a histogram. A similar color is clustered by the specification part 12 and the histogram increasing only the appearing frequency of the center colors of respective clusters is obtained from the formation part 13. Even if colors having high appearance frequency in the histogram are successively

selected by a look-up table setting part 14, selection of only similar colors can be prevented.

15/5/28 (Item 28 from file: 347)
DIALOG(R)File 347:JAPIO
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02681603 **Image available**
PROGRAMMABLE CONTROLLER HAVING DATA TRACE/TRACE DATA DISPLAY FUNCTION

PUB. NO.: 63-298503 [JP 63298503 A]
PUBLISHED: December 06, 1988 (19881206)
INVENTOR(s): YAMADA HIROYUKI
KUZUSHIMA MITSUNORI
APPLICANT(s): YASKAWA ELECTRIC MFG CO LTD [000662] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 62-131870 [JP 87131870]
FILED: May 29, 1987 (19870529)
INTL CLASS: [4] G05B-019/04; G05B-023/02; G06F-011/28 ; G06F-011/34
JAPIO CLASS: 22.3 (MACHINERY -- Control & Regulation); 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units)
JOURNAL: Section: P, Section No. 849, Vol. 13, No. 129, Pg. 29, March 30, 1989 (19890330)

ABSTRACT

PURPOSE: To read data at an arbitrary time by separating a CPU for tracing the data from a CPU for reading the traced data, temporarily storing the traced data of a buffer memory in other buffer memory, thereafter, reading and displaying on display device.

CONSTITUTION: The buffer memory 3 is constituted in a ring form, the oldest data is replaced by the newest data and at this time, the CPU 1 simultaneously updates the newest data pointer 6 indicating the address of the newest data. The user of a data trace function outputs the reading request of the data traced on the CPU 2 by the display device 5 at the arbitrary time. On receiving this, the CPU 2 refers to the newest data pointer 6 to read the data of (m) in the number from the newest data D(sub n)-D(sub n-m-1) and store in buffer memory 4. The CPU 2 transmits the contents of the buffer memory 4 to the display device 5 to display the data. Thereby, the user can fetch the traced data at the arbitrary time.

15/5/29 (Item 29 from file: 347)
DIALOG(R)File 347:JAPIO
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02443860 **Image available**
ELECTRONIC EQUIPMENT

PUB. NO.: 63-060760 [JP 63060760 A]
PUBLISHED: March 16, 1988 (19880316)
INVENTOR(s): YOSHIDA TAKASHI
APPLICANT(s): CANON INC [000100] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 61-206573 [JP 86206573]
FILED: September 01, 1986 (19860901)
INTL CLASS: [4] B41J-003/10; G06F-003/12 ; G06K-015/00
JAPIO CLASS: 29.4 (PRECISION INSTRUMENTS -- Business Machines); 45.3 (INFORMATION PROCESSING -- Input Output Units)
JAPIO KEYWORD: R131 (INFORMATION PROCESSING -- Microcomputers & Microprocessors); R139 (INFORMATION PROCESSING -- Word Processors)
JOURNAL: Section: M, Section No. 726, Vol. 12, No. 282, Pg. 120, August 03, 1988 (19880803)

ABSTRACT

PURPOSE: To cope with the great variety of document sizes, by a method

wherein equipment is directed to continuously print a colored ruled line pattern by a printing means and this action is stopped when the continuous printing of the ruled line pattern is conducted.

CONSTITUTION: A ruled line pattern is taken from a CG 7 by the pressing of a start key 5 on a keyboard 3. The taken ruled line pattern is printed on a position shown by a position counter 10, and **simultaneously** the position counter 10 is **updated** to the **data pointing** a next printing position. Here, if a stop key is operated, a printer 2 stops printing and then the printing of the ruled line is stopped; the operation flow goes out of this control routine. In this manner, ruled lines suitable for the size, format, etc. of documents and papers can be freely printed.

15/5/30 (Item 30 from file: 347)
DIALOG(R)File 347:JAPIO
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01612747 **Image available**
CRYSTAL AZIMUTH ANALYZING METHOD AND ITS APPARATUS

PUB. NO.: 60-091247 [JP 60091247 A]
PUBLISHED: May 22, 1985 (19850522)
INVENTOR(s): YANO MITSURU
FUNAKI SHUICHI
KAMA MITSUO
APPLICANT(s): NIPPON STEEL CORP [000665] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 58-199700 [JP 83199700]
FILED: October 25, 1983 (19831025)
INTL CLASS: [4] G01N-023/225; H01J-037/26
JAPIO CLASS: 46.2 (INSTRUMENTATION -- Testing); 13.1 (INORGANIC CHEMISTRY -- Processing Operations); 42.3 (ELECTRONICS -- Electron Tubes)
JAPIO KEYWORD: R115 (X-RAY APPLICATIONS)
JOURNAL: Section: P, Section No. 390, Vol. 09, No. 236, Pg. 149, September 21, 1985 (19850921)

ABSTRACT

PURPOSE: To accelerate the speed of analysis, by detecting a crystal particle from the recorded image of a scanning signal of a specimen by a scanning type electronic microscope and recording the same by image treatment while allowing electron beam to scan the crystal particle at a predetermined position to calculate the azimuth thereof.

CONSTITUTION: The image of a specimen 7 by a scanning type electronic microscope 1 with an ECP apparatus 10 is recorded to a memory 3 to develop the same by a display apparatus 5 and converted to an image of only a particle **boundary** constituting the crystal particle by an image processing apparatus 4 while coding and **calculation** of **center** coordinates are performed with respect to each crystal particle judged in a predetermined manner to be recorded to a memory 9. In the next step, the image number of the crystal particle to be measured is inputted from an operation control apparatus 6 and the specimen 7 is **moved** so as to coincide the **center** point of the crystal particle with an ECP measuring condition and the ECP image is displayed by the apparatus 2 through the apparatus 5. At the **same time**, the crystal azimuth guided to the apparatus 6 and analyzed thereby is recorded to the memory 9 along with the crystal particle number and the same operation is performed to all crystal particles.

Set	Items	Description
S1	1336	KMEAN? OR K()MEAN? ?
S2	617433	CENTROID? OR CENTER? OR CENTRAL? OR MEDIAN? OR MIDPOINT? OR MID()POINT? OR MIDDLE?
S3	288826	CLUSTER? OR MATRIX? OR PARTITION? OR DATA()POINT? OR BOUND-AR?
S4	504502	PARALLEL()PROCESS? OR CONCUR? OR CO()OCCUR? OR COOCCUR? OR SIMULTAN? OR SAME()TIME?
S5	578184	MOVE? OR REALIGN? OR REASSIGN? OR REDESIGNAT? OR MOVING OR UPDAT? OR UP()(DATE? OR DATING?)
S6	784	S1 AND S4
S7	44	S2(5N)S5 (10N) S3 (10N) S4
S8	20	S7 AND IC=G06F?
S9	13	S2 (5N) S5 (10N) S3 (10N) S4 (10N) (ALGORITHM? OR FORMULA? OR STATISTICAL()METHOD? OR CALCULATION?)
S10	7564	(CLUSTER? OR GROUP? OR DATAPOINT? OR DATA()POINT? OR BOUND-AR?)(2N)S5
S11	54	S10 (10N) S3 (10N) S4
S12	12	S11 AND IC=G06F?
S13	842	S6 OR S7 OR S8 OR S9 OR S12
S14	7	S1(10N)S4
S15	1	S14 AND IC=G06F?
S16	8	S1(S)S4 AND IC=G06F?
S17	102	(S7 OR S8 OR S9 OR S11 OR S12)
S18	6	S17 AND IC=G06F-017?
S19	20	S18 OR S14 OR S16
S20	20	IDPAT (sorted in duplicate/non-duplicate order)
S21	20	IDPAT (primary/non-duplicate records only)

File 348:EUROPEAN PATENTS 1978-2003/Feb W03

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File 349:PCT FULLTEXT 1979-2002/UB=20030220,UT=20030213

(c) 2003 WIPO/Univentio

01248133

METHOD FOR DETERMINING SOFTWARE AND PROCESSOR
METHODE ZUR SOFTWARE- UND PROZESSORERKENNUNG
PROC D PERMETTANT DE D TERMINER UN LOGICIEL ET UN PROCESSEUR
PATENT ASSIGNEE:

The Institute of Computer Based Software Methodology and Technology,
(2822471), 11-3, Takanawa 3-chome, Minatu-ku, Tokyo 108-0074, (JP),
(Applicant designated States: all)

Information System Development Institute, (2625771), 3-11-3, Takanawa
Minato-ku, Tokyo 108-0074, (JP), (Applicant designated States: all)

INVENTOR:

NEGORO, Fumio, 967-64, Juniso, Kamakura-shi, Kanagawa 248-0001, (JP)

LEGAL REPRESENTATIVE:

Midgley, Jonathan Lee (85971), Marks & Clerk 57-60 Lincoln's Inn Fields,
GB-London WC2A 3LS, (GB)

PATENT (CC, No, Kind, Date): EP 1244006 A1 020925 (Basic)
WO 2000079385 001228

APPLICATION (CC, No, Date): EP 2000939103 000620; WO 2000JP4008 000620

PRIORITY (CC, No, Date): JP 99174730 990621

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;
LU; MC; NL; PT; SE

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: G06F-009/06 ; G06F-009/44

CITED PATENTS (WO A): XP 2935464 ; XP 2935465 ; XP 2935466 ; XP
2935467 ; XP 2935468

CITED REFERENCES (WO A):

US 5564053 A

JP 5327872 A

WO 9716784 A1

WO 9819232 A1

JP 5088863 A

WO 9949387 A1

'Heiretsu machine kaihatsu no genjou' JOHO SHORI vol. 28, no. 1, 15

January 1987, (TOKYO), pages 10 - 18, XP002935464

NIKKEI BP K.K.: 'Jurai no software kaihatsu hoho wo kutsugaesu LYEE to wa
nanika' NIKKEI COMPUTER vol. 441, 13 April 1998, pages 64 - 66,
XP002935465

NIKKEI BP K.K.: 'LYEE ni yotte gekiteki ni henka suru kaihatsu koutei'
NIKKEI COMPUTER no. 444, 25 May 1998, (TOKYO), pages 112 - 114,
XP002935466

NIKKEI BP K.K.: 'LYEE ni yoru kaihatsu no jissai to riyou no kokorogamae'
NIKKEI COMPUTER vol. 446, 22 June 1998, (TOKYO), pages 134 - 137,
XP002935467

NIKKEI BP K.K.: 'Soft kaihatsu de gekitekina nouritsusei wo soushutsu
suru shikouhou LYEE riron no ittan wo kaiji suru' NIKKEI COMPUTER vol.
448, 20 July 1998, (TOKYO), pages 128 - 131, XP002935468;

ABSTRACT EP 1244006 A1

By deleting logic from the software development work, making
operational process logic unnecessary, obtaining requirements and
software at the same time, and for providing a revolutionary solution to
the problem concerned with traditional software, a desired software and
its requirement is decided by solving the Scenario Function that is a
theoretical conclusion of Logical Atomism. Specifically, the Definitive
such as Screen, File et al is defined and the Homogeneity Map is created
as well, in which the three components of the Scenario Function, i.e.,
W02, W03 and W04 Pallets are placed in accordance with a rule in which
semantic quality embodies linearly. Thereafter, the Tense Control Vector
with a prescribed structure to determine the semantic quality for every
word is made into program for every word belonging to the Definitive.
Characteristics of specific work are reflected in the Self Creation logic
contained in the Tense Control Vector. By operating programs obtained in
this manner in accordance with a rule of the Synchronous Structure, the
business operational requirements are satisfied

ABSTRACT WORD COUNT: 170

NOTE:

Figure number on first page: 25

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 010228 A1 International application. (Art. 158(1))

Application: 010228 A1 International application entering European phase

Application: 020925 A1 Published application with search report

Examination: 020925 A1 Date of request for examination: 20020118

LANGUAGE (Publication,Procedural,Application): English; English; Japanese

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
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CLAIMS A	(English)	200239	38545
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SPEC A	(English)	200239	178863
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Total word count - document A	217408
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Total word count - document B	0
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Total word count - documents A + B	217408
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21/5/2 (Item 2 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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01110765

Medical information processing system for supporting diagnosis

System zur Verarbeitung von medizinischen Daten zur Unterstuetzung der Diagnose

Systeme de traitement d'informations medicales pour assistance diagnostique

PATENT ASSIGNEE:

KABUSHIKI KAISHA TOSHIBA, (213130), 72, Horikawa-cho, Saiwai-ku,
Kawasaki-shi, Kanagawa-ken 210-8572, (JP), (Applicant designated
States: all)

INVENTOR:

Taguchi, Katsuyuki, 3-145-63, Minamigouya, Nishinasuno-machi, Nasugun,
Tochigi-ken, (JP)

Yamada, Shinichi, 5-20-14, Midori, Minamikawachi-machi, Kawachi-gun,
Tochigi-ken, (JP)

Ema, Takehiro, 2-6-5, Shiroyama, Ootawara-shi, Tochigi-ken, (JP)

LEGAL REPRESENTATIVE:

Blumbach, Kramer & Partner GbR (101302), Radeckestrasse 43, 81245 Munchen
, (DE)

PATENT (CC, No, Kind, Date): EP 973116 A1 000119 (Basic)

APPLICATION (CC, No, Date): EP 99119619 940228;

PRIORITY (CC, No, Date): JP 9339996 930301; JP 9348366 930309; JP 9384296
930412; JP 93177859 930719; JP 93178934 930720; JP 93182319 930723

DESIGNATED STATES: DE; NL

RELATED PARENT NUMBER(S) - PN (AN):

EP 616290 (EP 94102996)

INTERNATIONAL PATENT CLASS: G06F-019/00

ABSTRACT EP 973116 A1

A medical information processing system for supporting diagnosis, capable of displaying an original image and a minified image over the original image without being interfered to each other, capable of optimal man-power & time saving configurations and methods, capable of realizing an optimal classifying technique for doctor's interpretation and CAD-processed result, and capable of optimizing efficiency in forming accurate interpretation report by using PACS in a mass survey. The system includes: a detecting unit for detecting location of abnormality from a first medical image in accordance with a predetermined algorithm: an image forming unit for forming a second medical image in which a marker indicating the location of the abnormality is overlapped; and a display unit for displaying the first medical image and the second medical image in an optimally efficient way.

ABSTRACT WORD COUNT: 133

NOTE:

Figure number on first page: 9

LEGAL STATUS (Type, Pub Date, Kind, Text):

Change: 000621 A1 Inventor information changed: 20000502
Application: 20000119 A1 Published application with search report
Examination: 20000119 A1 Date of request for examination: 19991004
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200003	118
SPEC A	(English)	200003	66430
Total word count - document A			66548
Total word count - document B			0
Total word count - documents A + B			66548

21/5/3 (Item 3 from file: 348)

DIALOG(R) File 348:EUROPEAN PATENTS

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00996862

Start code detecting apparatus for video data stream

Vorrichtung zur Startkodedetektierung fur Videodatenstrom

Appareil de detection de code de depart pour un flux de donnees video

PATENT ASSIGNEE:

Discovision Associates, (260275), 2355 Main Street, Suite 200, Irvine, CA
92614, (US), (Applicant designated States: all)

INVENTOR:

Wise, Adrian Philip, 10 Westbourne Cottages, Frenchay, Bristol BS16 1NA,
(GB)

Sotheran, Martin William, The Ridings, WickLane Stinchcombe, Dursley,
Gloucestershire G11 6BD, (GB)

Robbins, William Philip, 19 Springhill, Cam, Gloucestershire GL11 5PE,
(GB)

Finch, Helen Rosemary, Tyley, Coombe, Wotton-under-edge, Gloucester GL12
7ND, (GB)

Boyd, Kevin James, 21 Lancashire Road, Bristol BS7 9DL, (GB)

LEGAL REPRESENTATIVE:

Cabinet Hirsch (101611), 34, Rue de Bassano, 75008 Paris, (FR)

PATENT (CC, No, Kind, Date): EP 901287 A2 990310 (Basic)

EP 901287 A3 990922

APPLICATION (CC, No, Date): EP 98202166 950228;

PRIORITY (CC, No, Date): GB 9405914 940324

DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IE; IT; LI; NL

RELATED PARENT NUMBER(S) - PN (AN):

EP 674443 (EP 95301301)

INTERNATIONAL PATENT CLASS: H04N-007/24; G06F-013/00 ; G06F-009/38

ABSTRACT EP 901287 A2

A system having a plurality of processing stages, comprising a
universal adaptation unit in the form of an interactive interfacing token
for control and/or data functions among said processing stages,

wherein said token is a CODING(underscore)STANDARD token for
conditioning said system for processing in a selected one of a plurality
of picture compression/ decompression standards; one of said processing
stages being a Huffman decoder and parser; one of said control tokens
being a CODING(underscore)STANDARD control token; and upon receipt of
said CODING(underscore)STANDARD control token, said parser is reset to an
address location corresponding to the location of a program for handling
the picture standard identified by said CODING(underscore)STANDARD
control token.

ABSTRACT WORD COUNT: 112

NOTE:

Figure number on first page: 61

LEGAL STATUS (Type, Pub Date, Kind, Text):

Change: 021023 A2 Legal representative(s) changed 20020830

Application: 990310 A2 Published application (A1with Search Report

;A2without Search Report)

Examination: 990310 A2 Date of filing of request for examination:
980629

Search Report: 990922 A3 Separate publication of the search report
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9910	191
SPEC A	(English)	9910	126718
Total word count - document A			126909
Total word count - document B			0
Total word count - documents A + B			126909

21/5/4 (Item 4 from file: 348)

DIALOG(R) File 348:EUROPEAN PATENTS

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00996861

Multistandard decoder for Huffman codes

Mehrnormendekodierer für Huffmancodes

Decodeur multistandard de codes de Huffman

PATENT ASSIGNEE:

Discovision Associates, (260275), 2355 Main Street, Suite 200, Irvine, CA
92614, (US), (applicant designated states:
AT;BE;CH;DE;FR;GB;IE;IT;LI;NL)

INVENTOR:

Wise, Adrian Philip, 10 Westbourne Cottages, Frenchhay, Bristol BS16 1NA,
(GB)

Sotheran, Martin William, The Riddin gs, Wick Lane Stinchcombe, Dursley,
Gloucestershire GL11 6BD, (GB)

Robbins, William Philip, 19 Sprin ghill, Cam, Gloucestershire GL11 5PE,
(GB)

Finch, Helen Rosemary, Tyley,Coombe, Wotton-Under-Edge, Gloucester GL12
7ND, (GB)

Boyd, Kevin James, 21 Lancashire Road, Bristol BS7 9DL, (GB)

LEGAL REPRESENTATIVE:

Vuillermoz, Bruno et al (72791), Cabinet Laurent & Charras B.P. 32 20,
rue Louis Chirpaz, 69131 Ecully Cedex, (FR)

PATENT (CC, No, Kind, Date): EP 901286 A1 990310 (Basic)

APPLICATION (CC, No, Date): EP 98202135 950228;

PRIORITY (CC, No, Date): GB 9405914 940324

DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IE; IT; LI; NL

RELATED PARENT NUMBER(S) - PN (AN):

EP 674443 (EP 953013018)

INTERNATIONAL PATENT CLASS: H04N-007/24; G06F-013/00 ; G06F-009/38

ABSTRACT EP 901286 A1

A Huffman decoder for decoding data words encoded according to the
Huffman coding provisions of either H.261 or MPEG standards, the data
words including an identifier that identifies the Huffman code standard
under which the data words were coded, comprising :

means for receiving the Huffman coded data words, including means for
reading the identifier to determine which standard governed the Huffman
coding of the received data words, and means for converting the data
words to JPEG Huffman coded data words, if necessary, in response to
reading the identifier that identifies the Huffman coded data words as
H.261 or MPEG Huffman coded ;

means, operably connected to the Huffman coded data words receiving
means, for generating an index number associated with each JPEG Huffman
coded data word receiving an index number from the index number
generating means, and including an output that is a decoded data word
corresponding to the index number.

ABSTRACT WORD COUNT: 155

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 990310 A1 Published application (A1with Search Report

Examination: 990310 A1 Date of filing of request for examination: 980626
Examination: 990901 A1 Date of dispatch of the first examination report: 19990713
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language Update Word Count
CLAIMS A (English) 9910 390
SPEC A (English) 9910 126718
Total word count - document A 127108
Total word count - document B 0
Total word count - documents A + B 127108

21/5/5 (Item 5 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00780988

Fuel metering control system for internal combustion engine
Kraftstoffmesssteuerungssystem für eine Brennkraftmaschine
Systeme de commande du dosage de carburant pour moteur a combustion interne
PATENT ASSIGNEE:

HONDA GIKEN KOGYO KABUSHIKI KAISHA, (2060610), 1-1, Minami-Aoyama 2-chome
, Minato-ku Tokyo, (JP), (Proprietor designated states: all)

INVENTOR:

Maki, Hidetaka, c/o K.K. Honda Gijyutsu Kenkyusho, 4-1, 1-chome, Chuo,
Wako-shi, Saitama, (JP)

Akazaki, Shusuke, c/o K.K. Honda Gijyutsu Kenkyusho, 4-1, 1-chome, Chuo,
Wako-shi, Saitama, (JP)

Hasegawa, Yusuke, c/o K.K. Honda Gijyutsu Kenkyusho, 4-1, 1-chome, Chuo,
Wako-shi, Saitama, (JP)

Komoriya, Isao, c/o K.K. Honda Gijyutsu Kenkyusho, 4-1, 1-chome, Chuo,
Wako-shi, Saitama, (JP)

LEGAL REPRESENTATIVE:

Tomlinson, Kerry John (36771), Frank B. Dehn & Co., European Patent
Attorneys, 179 Queen Victoria Street, London EC4V 4EL, (GB)

PATENT (CC, No, Kind, Date): EP 728929 A2 960828 (Basic)

EP 728929 A3 990616

EP 728929 B1 021211

APPLICATION (CC, No, Date): EP 96301284 960226;

PRIORITY (CC, No, Date): JP 9561663 950225

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: F02D-041/14; F02D-041/34

CITED PATENTS (EP B): EP 553570 A; EP 670420 A; EP 697512 A; DE 4339170 A;
DE 4422072 A; US 5715796 A

ABSTRACT EP 728929 A2

A system for controlling fuel metering for an internal combustion engine provided with a first feedback loop that calculates a first feedback correction coefficient using an adaptive control law to correct a quantity of fuel injection such that a detected air/fuel ratio is brought to a desired air/fuel ratio, a second feedback loop that calculates a second coefficient using a PID control law to similarly correct the quantity of fuel injection, and a third feedback loop that calculates a third coefficient using a PID controller to correct the quantity of fuel injection such that air/fuel ratio variance among the cylinders decreases. Either of the first or second coefficient is selected and based on the selected coefficient, the feedback gains of the third feedback loop are determined (S24, S26). (see image in original document)

ABSTRACT WORD COUNT: 154

NOTE:

Figure number on first page: 4

LEGAL STATUS (Type, Pub Date, Kind, Text):

Examination: 020410 A2 Date of dispatch of the first examination

report: 20020225

Application: 960828 A2 Published application (A1with Search Report
;A2without Search Report)
Grant: 021211 B1 Granted patent
Search Report: 990616 A3 Separate publication of the European or
International search report
Change: 990616 A2 Obligatory supplementary classification
(change)
Examination: 990901 A2 Date of request for examination: 19990706
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPAB96	785
CLAIMS B	(English)	200250	786
CLAIMS B	(German)	200250	649
CLAIMS B	(French)	200250	1011
SPEC A	(English)	EPAB96	9881
SPEC B	(English)	200250	9746
Total word count - document A			10667
Total word count - document B			12192
Total word count - documents A + B			22859

21/5/6 (Item 6 from file: 348)

DIALOG(R) File 348:EUROPEAN PATENTS

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00773090

Relational database system and method with high data availability during
table data restructuring

Relationales Datenbanksystem und Verfahren mit grosser Verflugbarkeit der
Daten bei der Umstrukturierung von Tabellendaten

Systeme de gestion de base de donnees relationnelle et procede avec grande
disponibilite de donnees pendant la restructuration de tables

PATENT ASSIGNEE:

Compaq Computer Corporation, (687790), 20555 S.H. 249, Houston, Texas
77070-2698, (US), (Proprietor designated states: all)

INVENTOR:

Maier, Donald S., 2251 Middletown Drive, Campbell, California 95008, (US)
Marton, Roberta S., 48276 Cottonwood Street, Fremont, California 94539,
(US)

Troisi, James H., 837 Orange Avenue, Sunnyvale, California 94087, (US)
Celis, Pedro, (NMI), 6607 Rain Creek Parkway, Austin, Texas 78759-6123,
(US)

LEGAL REPRESENTATIVE:

Cross, Rupert Edward Blount et al (42891), BOULT WADE TENNANT, Verulam
Gardens 70 Gray's Inn Road, London WC1X 8BT, (GB)

PATENT (CC, No, Kind, Date): EP 723238 A1 960724 (Basic)
EP 723238 B1 010919

APPLICATION (CC, No, Date): EP 96300429 960123;

PRIORITY (CC, No, Date): US 377758 950123

DESIGNATED STATES: DE; FR; GB; IT; SE

INTERNATIONAL PATENT CLASS: G06F-017/30

CITED PATENTS (EP B): EP 306197 A; EP 560543 A

CITED REFERENCES (EP B):

INTELLECTUAL LEVERAGE, SAN FRANCISCO, FEB. 25 - MAR. 1, 1991, no. CONF.
36, 25 February 1991, INSTITUTE OF ELECTRICAL AND ELECTRONICS
ENGINEERS, pages 105-109, XP000293859 LESLIE H: "OPTIMIZING PARALLEL
QUERY PLANS AND EXECUTION";

ABSTRACT EP 723238 A1

A database computer system includes memory, residing in a plurality of
interconnected computer nodes, for storing database tables. Each database
table has a plurality of columns, a primary key index based on a
specified subset of the columns, and an associated table schema. At
least a subset of the database tables are partitioned into a plurality
of partitions, each partition storing records having primary key values
in a primary key range distinct from the other partitions. A transaction

Kawasaki-shi Kanagawa 210, (JP), (applicant designated states:
DE;FR;GB)

INVENTOR:

Kasano, Akira c/o Patent Division, Kabushiki Kaisha Toshiba 1-1 Shibaura
1-chome, Minato-ku Tokyo 105, (JP)

LEGAL REPRESENTATIVE:

Henkel, Feiler, Hanzel & Partner (100401), Mohlstrasse 37, D-81675
Munchen, (DE)

PATENT (CC, No, Kind, Date): EP 249922 A2 871223 (Basic)
EP 249922 A3 910424
EP 249922 B1 930901

APPLICATION (CC, No, Date): EP 87108608 870615;

PRIORITY (CC, No, Date): JP 86139815 860616

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06F-015/68 ; G06F-015/31

CITED PATENTS (EP A): US 4228421 A; FR 2293011 A

CITED REFERENCES (EP A):

PATENT ABSTRACTS OF JAPAN, vol. 10, no. 312 (P-509) 2368 , 23rd October
1986; & JP-A-61 123 986 (FUJITSU LTD) 11-06-1986;

ABSTRACT EP 249922 A2

According to this invention, in image data A and B which are
respectively constituted by pixel groups (SIGMA)A(sub(ij)) and (SIGMA)B(
sub(ij)) consisting of N pixels A(sub(ij)) and B(sub(ij)) (N is a
positive integer; i and j respectively indicate a row position and a
column position), and in which density data A(sub(dij)) and B(sub(dij))
of the pixels are expressed by n(2m)-bit data (n and m are positive
integers), designated 2m-bit portion a(sub(ij)) of each density data A(
sub(dij)) of image data A is divided into upper m-bit portion a(
sub(Uij)) and lower m-bit portion a(sub(Lij)). A histogram processor
(16) calculates (SIGMA)a(sub(ij))*b(sub(ij)) between 2m-bit portions a(
sub(ij)) and b(sub(ij)) using a histogram obtained by the upper or lower
m-bit portion a(sub(Uij)) or a(sub(Lij)) and designated 2m-bit portion
b(sub(ij)) of each density data B(sub(dij)) of pixel group (SIGMA)B(
sub(ij)). An average can also be calculated by a calculation section (32)
using the histogram. Therefore, a covariance can be calculated at high
speed.

ABSTRACT WORD COUNT: 177

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 871223 A2 Published application (A1with Search Report
;A2without Search Report)

Examination: 871223 A2 Date of filing of request for examination:
870710

Search Report: 910424 A3 Separate publication of the European or
International search report

Examination: 930303 A2 Date of despatch of first examination report:
930118

Grant: 930901 B1 Granted patent

Oppn None: 940824 B1 No opposition filed

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	3938
CLAIMS B	(German)	EPBBF1	2762
CLAIMS B	(French)	EPBBF1	4062
SPEC B	(English)	EPBBF1	6308
Total word count - document A			0
Total word count - document B			17070
Total word count - documents A + B			17070

21/5/8 (Item 8 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00243004

Silver halide photographic material.

Photographisches Silberhalogenidmaterial.

Materiau photographique a l'halogenure d'argent.

PATENT ASSIGNEE:

FUJI PHOTO FILM CO., LTD., (202400), 210 Nakanuma Minami Ashigara-shi,
Kanagawa 250-01, (JP), (applicant designated states: DE;FR;GB;NL)

INVENTOR:

Momoki, Yasuhito c/o Fuji Photo Film Co., Ltd., No. 210 Nakanuma, Minami
Ashigara-shi Kanagawa, (JP)

Hasebe, Kazunori c/o Fuji Photo Film Co., Ltd., No. 210 Nakanuma, Minami
Ashigara-shi Kanagawa, (JP)

LEGAL REPRESENTATIVE:

Patentanwalte Grunecker, Kinkeldey, Stockmair & Partner (100721),
Maximilianstrasse 58, W-8000 Munchen 22, (DE)

PATENT (CC, No, Kind, Date): EP 248442 A2 871209 (Basic)

EP 248442 A3 900404

EP 248442 B1 930331

APPLICATION (CC, No, Date): EP 87108139 870604;

PRIORITY (CC, No, Date): JP 86130739 860605

DESIGNATED STATES: DE; FR; GB; NL

INTERNATIONAL PATENT CLASS: G03C-001/005;

CITED PATENTS (EP A): US 2318597 A; US 2202026 A; DE 3502490 A

ABSTRACT EP 248442 A2

A photographic light-sensitive material comparing a support having thereon at least one silver halide emulsion layer, wherein the silver halide emulsion layer comprises a silver chlorobromide emulsion which is substantially free of iodide and has a chloride content which satisfies the following relationship (I) between a mean mole% of silver chloride in grain group (A), in which the grains have sizes not less than the median size in the grain size distribution, and a mean mole% of silver chloride in grain group (B) in which the grains have sizes less than the median size, whereby excellent gradation and wide exposure latitude are achieved, and there is a small dependence on the development conditions.

Relationship (I):

$1 \leq \frac{\text{Mean mol\% of silver chloride in grain group (A)}}{\text{Mean mol\% of silver chloride in grain group (B)}} \leq 99$

ABSTRACT WORD COUNT: 140

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 871209 A2 Published application (A1with Search Report
;A2without Search Report)

Change: 891206 A2 Representative (change)

Search Report: 900404 A3 Separate publication of the European or
International search report

Examination: 900905 A2 Date of filing of request for examination:
900711

Examination: 911106 A2 Date of despatch of first examination report:
910926

Grant: 930331 B1 Granted patent

Lapse: 931222 B1 Date of lapse of the European patent in a
Contracting State: NL 930331

Oppn None: 940323 B1 No opposition filed

Lapse: 940615 B1 Date of lapse of the European patent in a
Contracting State: FR 930820, NL 930331

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	538
CLAIMS B	(German)	EPBBF1	452
CLAIMS B	(French)	EPBBF1	593
SPEC B	(English)	EPBBF1	7402

Total word count - document A 0

Total word count - document B 8985

Total word count - documents A + B 8985

00165900

Method for the neutralization of an A-zeolite filter cake.

Verfahren zur Neutralisierung des Filterkuchens von Zeolith A.

Procede de neutralisation du gateau de filtre de zeolite A.

PATENT ASSIGNEE:

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LEGAL REPRESENTATIVE:

Porsia, Attilio et al (51412), c/o Succ. Ing. Fischetti & Weber-Dr.
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PATENT (CC, No, Kind, Date): EP 175090 A1 860326 (Basic)
EP 175090 B1 880601

APPLICATION (CC, No, Date): EP 85109177 850722;

PRIORITY (CC, No, Date): IT 8412598 840912

DESIGNATED STATES: AT; BE; CH; DE; FR; GB; LI; LU; NL; SE

INTERNATIONAL PATENT CLASS: C01B-033/34

CITED PATENTS (EP A): FR 2306167 A; FR 2340128 A; DD 132069 A; US 4247527 A

ABSTRACT EP 175090 A1

The filter press cake, obtained by separation of the raw Zeolite from the major portion of the mother liquor and not washed, or only partially washed, is additivated with a suitable surface-active agent, added in the amount of from 1 to 2% in weight on the weight of the wet Zeolite. The thus-fluidized Zeolite is treated in a high-turbulence zone with sulphuric acid at a concentration greater than 70%, which is added in such an amount as to produce a nearly complete neutralization of the final Zeolite.

ABSTRACT WORD COUNT: 91

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 860326 A1 Published application (A1with Search Report
;A2without Search Report)
Examination: 860326 A1 Date of filing of request for examination:
851213
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870330
Grant: 880601 B1 Granted patent
Oppn: 890426 B1 Opposition 01/890225 Degussa AG, Frankfurt -
Zweigniederlassung Wolfgang- Zentrale Abteilung
Patente; Rodenbacher Chaussee 4 Postfach 1345;
D-6450 Hanau 1; (DE)
Change: 921209 B1 Representative (change)
*Assignee: 921209 B1 Proprietor of the patent (transfer of rights):
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11, I-36050 Sovizzo, Vicenza (IT) (applicant
designated states:
AT;BE;CH;DE;FR;GB;LI;LU;NL;SE)
Amended: 930127 B2 Maintenance of the European patent as amended
Lapse: 931118 B2 Date of lapse of the European patent in a
Contracting State: SE 930104

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	226
CLAIMS B	(German)	EPBBF1	194
CLAIMS B	(French)	EPBBF1	231
SPEC B	(English)	EPBBF1	1341
Total word count - document A			0
Total word count - document B			1992
Total word count - documents A + B			1992

21/5/10 (Item 10 from file: 349)
DIALOG(R) File 349:PCT FULLTEXT
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00887087 **Image available**

ANOMALY DETECTION SYSTEM AND A METHOD OF TEACHING IT
SYSTEME DE DETECTION D'ANOMALIE ET SON PROCEDE D'APPRENTISSAGE

Patent Applicant/Assignee:

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Patent Applicant/Inventor:

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HATONEN Kimmo, Kapytie 8 J 34, FIN-00650 Helsinki, FI, FI (Residence), FI
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Helsinki, FI,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200221242 A1 20020314 (WO 0221242)

Application: WO 2001FI783 20010910 (PCT/WO FI0100783)

Priority Application: FI 20001997 20000911

Designated States: AE AG AL AM AT AT (utility model) AU AZ BA BB BG BR BY
BZ CA CH CN CO CR CU CZ CZ (utility model) DE DE (utility model) DK DK
(utility model) DM DZ EC EE EE (utility model) ES FI FI (utility model)
GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV
MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SK (utility
model) SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-001/00

International Patent Class: G06F-015/18 ; G06N-003/08

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 3760

English Abstract

A method for teaching an anomaly detecting mechanism in a system comprising observable elements (302), at least one of which has a periodic time-dependent behaviour, the anomaly detecting mechanism comprising a computerized learning mechanism (314). The method comprises assembling indicators (304) indicating the behaviour of the elements (302) and arranging the assembled indicators such that each observable element's indicators are assigned to the same input data component. The learning mechanism (314) is taught so that the input data of the learning mechanism comprises the input data components which are based on the assembled indicators (304). Points which approximate the input data are placed in the input space. A presentation of time (420 - 424) is incorporated into at least one input data component wherein the presentation of time is periodic, continuous and unambiguous within the period of the at least one element with periodic time-dependent behaviour.

French Abstract

La presente invention concerne un procede permettant l'apprentissage d'un mecanisme de detection d'anomalie dans un systeme comprenant des elements observables (302), dont au moins l'un a un comportement periodique dependant du temps, le mecanisme de detection d'anomalie comprenant un mecanisme d'apprentissage informatise (314). Le procede comprend l'assemblage d'indicateurs (304) indiquant le comportement des elements

(302) et la disposition des indicateurs assembles de sorte que les indicateurs de chaque element observable sont associes au meme element de donnees d'entree. L'apprentissage du mecanisme d'apprentissage (314) se fait de sorte que les donnees d'entree du mecanisme d'apprentissage comprennent les elements de donnees d'entree qui se basent sur les indicateurs assembles (304). Des points qui correspondent approximativement aux donnees d'entree sont places dans l'espace d'entree. Une presentation de temps (420 - 424) est incorporee a au moins un element de donnees d'entree, la presentation de temps etant periodique, continue et non ambigue a l'interieur de l'intervalle de temps des elements ayant un comportement periodique dependant du temps.

Legal Status (Type, Date, Text)

Publication 20020314 A1 With international search report.

Examination 20020620 Request for preliminary examination prior to end of 19th month from priority date

21/5/11 (Item 11 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00869170 **Image available**

METHOD AND APPARATUS FOR HETEROGENEOUS DISTRIBUTED COMPUTATION

PROCEDE ET SYSTEME DE CALCUL REPARTI HETEROGENE

Patent Applicant/Assignee:

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Inventor(s):

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HOCHBERG Michael, MSC 512-Caltech, Pasadena, CA 91126, US,

Legal Representative:

HARRIMAN J D II (et al) (agent), Coudert Brothers, 333 South Hope Street,
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Patent and Priority Information (Country, Number, Date):

Patent: WO 200203258 A1 20020110 (WO 0203258)

Application: WO 2001US41211 20010629 (PCT/WO US0141211)

Priority Application: US 2000215224 20000630

Designated States: CA JP

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

Main International Patent Class: **G06F-017/30**

International Patent Class: **G06F-007/00**

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 5773

English Abstract

The present invention provides a method and apparatus for heterogeneous distributed computation. According to one or more embodiments, a semi-automatic process for setting up a distributed computing environment is used. Each problem (200) that the distributed computing system must handle is described as an n-dimensional Cartesian field (210). The computational and memory resources needed by the computing system are mapped in a monotonic fashion to the Cartesian field (230).

French Abstract

La presente invention concerne un procede et un systeme de calcul repartit heterogene. Dans une ou plusieurs formes de realisation, un procede semi-automatique de configuration d'un environnement de calcul repartit est utilise. Chaque probleme (200) que le systeme de calcul repartit doit resoudre est decrit comme un espace cartesien a n dimensions (210). Les ressources computationnelles et les ressources de la memoire dont le systeme de calcul a besoin sont mappees de facon monotone relativement a l'espace cartesien (230).

Legal Status (Type, Date, Text)

Publication 20020110 A1 With international search report.

Examination 20021010 Request for preliminary examination prior to end of
19th month from priority date

21/5/12 (Item 12 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00787042 **Image available**

COMPUTER SYSTEMS AND METHODS FOR HIERARCHICAL CLUSTER ANALYSIS OF BIOLOGICAL
DATA

SYSTEMES INFORMATIQUES ET METHODES PERMETTANT UNE ANALYSE TYPOLOGIQUE
HIERARCHIQUE DE GRANDS ENSEMBLES DE DONNEES BIOLOGIQUES COMPRENANT DES
DONNEES D'ENSEMBLES DE GENES TRES DENSES

Patent Applicant/Assignee:

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(Residence), US (Nationality), (For all designated states except: US)

Patent Applicant/Inventor:

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Legal Representative:

DONOHUE Michael J (et al) (agent), Seed Intellectual Property Law Group

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200120536 A2-A3 20010322 (WO 0120536)

Application: WO 2000US25304 20000915 (PCT/WO US0025304)

Priority Application: US 99397380 19990915

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ

DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ

LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG

SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-019/00

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 10806

English Abstract

A system and corresponding method analyzes biological data for sets of test subjects such as gene arrays of group test subjects into clusters and order the clusters into a hierarchy based on similarities and differences of biological data corresponding to the test subjects. A combination of nonhierarchical clustering and hierarchical clustering methods is used to efficiently and effectively perform hierarchical clustering of such biological data as highly dense gene arrays containing many thousand test subjects such as genes. First the test subjects are nonhierarchically clustered according to similarities and differences of their biological data as determined by distance techniques.

Representative values, such as mean values, of the biological data are determined for each nonhierarchical cluster of test subjects. These representative values are then used to hierarchically cluster the nonhierarchical clusters. Biological data for each test subject is displayed in a row of a table. The rows of the table are arranged by the nonhierarchical clustering and further by the hierarchical clustering. Each value of the biological data is color coded according to its value to display patterns in the hierarchically clustered biological data.

French Abstract

Cette invention a trait a un systeme ainsi qu'a la methode correspondante permettant d'analyser des donnees biologiques relatives a des ensembles

d'objets de test, tels que des ensembles de genes d'objets de test de groupe en grappes ainsi que de classer les grappes hierarchiquement en fonction des ressemblances et des dissemblances des donnees biologiques correspondant aux objets de test. On fait appel a une methode de combinaison de groupage non hierarchique et de groupage hierarchique pour realiser, efficacement et utilement, un groupage hierarchique de ces donnees biologiques sous forme d'ensembles de genes tres denses comprenant plusieurs milliers de sujets d'essai, des genes, en l'occurrence. Les objets de test sont, tout d'abord, groupes de maniere non hierarchique en fonction des ressemblances et dissemblances de leurs donnees biologiques comme determine par des techniques de distance. Il est alors determine des valeurs representatives, des valeurs moyennes par exemple, des donnees biologiques pour chaque grappe non hierarchique des objets de test. On utilise ces valeurs representatives pour grouper de maniere hierarchique les grappes non hierarchiques. Les donnees biologiques de chaque objet de test sont affichees dans la rangee d'un tableau. Ces rangees sont disposees selon un groupage non hierarchique et, par la suite, selon le groupage hierarchique. Chaque valeur des donnees biologiques est codee par couleur en fonction des configurations d'affichage des donnees biologiques groupees hierarchiquement.

Legal Status (Type, Date, Text)

Publication 20010322 A2 Without international search report and to be republished upon receipt of that report.

Examination 20011206 Request for preliminary examination prior to end of 19th month from priority date

Search Rpt 20020502 Late publication of international search report

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21/5/13 (Item 13 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00786086 **Image available**

FETAL OUTCOME PREDICTOR AND MONITORING SYSTEM

SYSTEME DE PREVISION DE L'EVOLUTION D'UN FOETUS ET DE SURVEILLANCE

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Patent Applicant/Inventor:

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Legal Representative:

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200119240 A1 20010322 (WO 0119240)

Application: WO 2000US25456 20000918 (PCT/WO US0025456)

Priority Application: US 99398178 19990917

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES

FI GB GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV

MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG

US UZ VN YU ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: A61B-005/00

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 6854

English Abstract

A fetal health assessor and outcome predictor (28) and monitoring system (10) includes a system for automatically assessing fetal health and predicting fetal outcomes based on fetal and maternal data (14).

French Abstract

L'invention concerne un systeme d'evaluation de la sante d'un foetus, de prevision (28) de l'evolution du foetus, et de surveillance, comprenant un systeme destine a evaluer la sante du foetus et a prevoir l'evolution du foetus de facon automatique a partir de donnees (14) foetales et maternelles.

Legal Status (Type, Date, Text)

Publication 20010322 A1 With international search report.

Examination 20010907 Request for preliminary examination prior to end of 19th month from priority date

21/5/14 (Item 14 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00784185 **Image available**

A SYSTEM AND METHOD FOR STREAM-BASED COMMUNICATION IN A COMMUNICATION SERVICES PATTERNS ENVIRONMENT

SYSTEME, PROCEDE ET ARTICLE DE PRODUCTION FOURNISSANT UN SYSTEME DE COMMUNICATION EN CONTINU DANS UN ENVIRONNEMENT DE CONFIGURATIONS DE SERVICES DE COMMUNICATION

Patent Applicant/Assignee:

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Inventor(s):

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200117195 A2-A3 20010308 (WO 0117195)

Application: WO 2000US24125 20000831 (PCT/WO US0024125)

Priority Application: US 99386717 19990831

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DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ

LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG

SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: H04L-029/06

International Patent Class: G06F-017/22 ; H04L-029/12

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 150532

English Abstract

A system, method, and article of manufacture are disclosed for providing a stream-based communication system. A shared format is defined on interface code for a sending system and a receiving system. A message to be sent from the sending system to the receiving system is translated based on the shared format. Once translated, the message is then sent from the sending system and received by the receiving system. Once the message is received by the receiving system, the message is then translated based on the shared format.

French Abstract

L'invention concerne un systeme, un procede et un article de production fournissant un systeme de communication en continu. Un format partage est defini selon un code d'interface pour un systeme emetteur et un systeme recepteur. Un message devant etre envoye par le systeme emetteur est traduit sur la base du format partage. Une fois traduit, le message est envoye du systeme emetteur et recu par le systeme recepteur. Le message recu par le systeme recepteur est ensuite traduit sur la base du format partage.

Legal Status (Type, Date, Text)

Publication 20010308 A2 Without international search report and to be republished upon receipt of that report.
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Search Rpt 20011115 Late publication of international search report
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21/5/15 (Item 15 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00784184 **Image available**

A SYSTEM, METHOD FOR FIXED FORMAT STREAM COMMUNICATION IN A COMMUNICATION SERVICES PATTERNS ENVIRONMENT
SYSTEME, PROCEDE ET ARTICLE POUR FLUX DE FORMAT FIXE DANS UN ENVIRONNEMENT A CONFIGURATIONS DE SERVICES DE COMMUNICATION

Patent Applicant/Assignee:

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Inventor(s):

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Legal Representative:

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200117194 A2-A3 20010308 (WO 0117194)

Application: WO 2000US24114 20000831 (PCT/WO US0024114)

Priority Application: US 99386430 19990831

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DZ EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: H04L-029/06

International Patent Class: G06F-017/22 ; H04L-029/12

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 149954

English Abstract

A system, method, and article of manufacture provide a fixed format stream-based communication system. A sending fixed format contract on interface code is defined for a sending system. A receiving fixed format contract on interface code is also defined for a receiving system. A message to be sent from the sending system to the receiving system is translated based on the sending fixed format contract. The message is then sent from the sending system and subsequently received by the receiving system. The message received by the receiving system is then translated based on the receiving fixed format contract.

French Abstract

L'invention concerne un systeme, un procede et un article pour systeme de communication a flux de format fixe. Un contrat de format fixe de transmission sur code d'interface est defini pour un systeme de transmission. Un contrat de format fixe de reception sur code d'interface est egalement defini pour un systeme de reception. Un message destine a etre envoye du systeme de transmission au systeme de reception est converti sur la base du contrat de format fixe de transmission. Le message est ensuite transmis depuis le systeme de transmission, puis il est recu par le systeme de reception et converti sur la base du contrat de format fixe.

Legal Status (Type, Date, Text)

Publication 20010308 A2 Without international search report and to be republished upon receipt of that report.
Examination 20010816 Request for preliminary examination prior to end of 19th month from priority date
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Republication 20020103 A3 With international search report.

21/5/16 (Item 16 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00769510 **Image available**

A METHOD AND SYSTEM TO SYNTHESIZE PORTFOLIOS OF GOODS, SERVICES OR FINANCIAL INSTRUMENTS

PROCEDE ET DISPOSITIF PERMETTANT DE SYNTHETISER DES PORTEFEUILLES DE BIENS, DE SERVICES OU D'INSTRUMENTS FINANCIERS

Patent Applicant/Assignee:

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(Residence), US (Nationality)

Inventor(s):

KAUFFMAN Stuart A, 1811 S. Camino Cruz Blanco, Santa Fe, NM 87505, US

Legal Representative:

MORRIS Francis E, Pennie & Edmonds LLP, 1155 Avenue of the Americas, New York, NY 10036, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 200103046 A1 20010111 (WO 0103046)

Application: WO 2000US18632 20000707 (PCT/WO US0018632)

Priority Application: US 99142543 19990707

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ

DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ

LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG

SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: **G06F-017/60**

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 14128

English Abstract

The present invention includes methods and systems for dynamically synthesizing custom portfolios of goods, services or financial instruments for clusters of customers from preference data is gathered (102), next, customers are clustered into clusters of similar customers (104), subsequently indifference or utility surfaces are determined that represent the landscape of customer preferences(105), and finally, custom and optimum portfolios are synthesized from the indifference surface and, preferably, historical data concerning the goods, services or financial instruments (106). The present invention also includes computer systems,

preferably network-based distributed systems, that implement the methods of the invention.

French Abstract

L'invention concerne des procedes et des dispositifs permettant de synthetiser de maniere dynamique des portefeuilles de biens, de services ou d'instruments financiers sur mesure, pour un groupe de clients a partir de donnees relatives aux preferences d'un client. Selon les procedes decrits dans l'invention, les donnees relatives aux preferences d'un client sont d'abord rassemblees (102); puis les clients sont regroupes par groupes de clients similaires (104); ensuite, des plages de services ou d'indifference sont determinees, elles constituent le paysage des preferences d'un client ; enfin, les portefeuilles optimums et personnalisés sont synthetises a partir de la plage d'indifference et, de preference, a partir des donnees historiques concernant les biens, les services ou les instruments financiers (106). L'invention concerne egalement des systemes informatiques, de preference, en reseau, des systemes d'exploitation repartis, qui permettent de mettre en oeuvre les procedes decrits dans cette invention.

Legal Status (Type, Date, Text)

Publication 20010111 A1 With international search report.

Publication 20010111 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.

Examination 20010419 Request for preliminary examination prior to end of 19th month from priority date

21/5/17 (Item 17 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00368277

MULTILINGUAL DOCUMENT RETRIEVAL SYSTEM AND METHOD USING SEMANTIC VECTOR MATCHING

SYSTEME DE RECHERCHE DE DOCUMENTS MULTILINGUES ET PROCEDE UTILISANT LA MISE EN CORRESPONDANCE DE VECTEURS SEMANTIQUES

Patent Applicant/Assignee:

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Inventor(s):

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Patent and Priority Information (Country, Number, Date):

Patent: WO 9708604 A2 19970306

Application: WO 96US13342 19960814 (PCT/WO US9613342)

Priority Application: US 952473 19950816

Designated States: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB
GE HU IL IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ
PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US VZ VN KE LS MW SD SZ UG
AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL
PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

Main International Patent Class: G06F-017/28

International Patent Class: G06F-17:30

Publication Language: English

Fulltext Availability:

Detailed Description
Claims

Fulltext Word Count: 13054

English Abstract

A document retrieval system (20) where a user can enter a query,

including a natural query, in a desired one of a plurality of supported languages, and retrieve documents from a database (60) that includes documents in at least one other language of the plurality of supported languages. The user need not have any knowledge of the other languages. Each document in the database is subjected to a set of processing steps to generate a language-independent conceptual representation of the subject content of the document. The query is also subjected to a (possibly different) set of processing steps to generate a language-independent conceptual representation of the subject content of the query. Documents are matched to queries based on the conceptual-level contents of the document and query, and, optionally, on the basis of the term-based representation.

French Abstract

Cette invention concerne un systeme de recherche de documents dans lequel un utilisateur peut soumettre une interrogation, y compris une interrogation en langage naturel, dans une langue choisie parmi une pluralite de langues disponibles, et rechercher des documents dans une base de donnees qui comporte des documents dans au moins un autre langue appartenant a l'ensemble des langues disponibles. L'utilisateur peut n'avoir aucune connaissance des autres langues. Chaque document de la base de donnees est soumis a un ensemble de phases de traitement dans le but de produire une representation conceptuelle, non liee a une langue, du contenu dudit document. Ceci est normalement effectuee avant que l'interrogation ne soit entree. L'interrogation est egalement soumise a un ensemble (eventuellement different) de phases de traitement dans le but de produire une representation conceptuelle, non liee a une langue, du contenu de l'interrogation. On peut egalement soumettre interrogations et documents a une analyse supplementaire afin de disposer de representations terminologiques supplementaires, notamment une extraction des termes et expressions riches en information (tels que les noms propres). Les documents sont mis en correspondance avec les interrogations sur la base de leurs contenus de niveau conceptuel, et eventuellement sur la base de la representation terminologique. La representation de l'interrogation est ensuite comparee a la representation de chaque document de maniere a produire une mesure du rapport existant entre le document et l'interrogation.

21/5/18 (Item 18 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00367145 **Image available**

METHOD AND APPARATUS FOR A PROCESS AND PROJECT MANAGEMENT COMPUTER SYSTEM PROCEDE ET APPAREIL POUR SYSTEME INFORMATIQUE DE GESTION DE PROCESSUS ET DE PROJET

Patent Applicant/Assignee:

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VOESCH Ekkehard,
LEISTEN Udo,

Inventor(s):

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Patent and Priority Information (Country, Number, Date):

Patent: WO 9707472 A1 19970227
Application: WO 95EP3289 19950818 (PCT/WO EP9503289)
Priority Application: WO 95EP3289 19950818

Designated States: JP US AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE

Main International Patent Class: G06F-017/60

Publication Language: English

Fulltext Availability:

Detailed Description
Claims

English Abstract

Current demands for quality systems imply requirements for synergistic integration of dynamic process and project planning, management and execution of work processes and people performing these tasks in different roles. Each individual user role exercises a different view over the work process, where the different views comprise different, partly overlapping functions over a work process. The inventive concept comprises a system platform for a synergistic, role modular work process environment. A work process object (WPO) (1001) is created, residing in a data base, and stored in a memory of the process and project management computer system (1030). All data concerning the process and project management are reported to said work process object (WPO) (1001) and said work process object (WPO) (1001) is used as a common data base. According to the inventive concept, each view must be supported by a specific workplace, represented by digital data and enforcing the rules for the specific role. A work process information model supports the dynamic definition and use of a data base object representing a work process, both in its process and project planning modes and its execution. According to the inventive concept, one object supports **simultaneously** all modes delimited by dynamically **moving boundaries**. Workplace implementation enforces over-all rules for each role in the inventive system.

French Abstract

Les exigences actuelles en matiere de systemes de qualite refletem la necessite d'une integration synergique dans les domaines de la planification dynamique de processus et de projets, de la gestion et de l'execution de processus de travail, ainsi que chez les personnes qui effectuent ces taches dans des roles differents. Le role de chaque utilisateur individuel donne lieu a un apercu different du processus de travail, chaque apercu comprenant des fonctions differentes et se chevauchant partiellement lors du processus de travail. Le concept decrit dans cette invention consiste en une plate-forme systeme destinee a un environnement synergique d'un processus de travail modulaire et par role. Un objet du processus de travail (WPO) (1001) est tout d'abord cree de maniere a etre resident dans une base de donnees, puis stocke dans la memoire d'un systeme informatique (1030) de gestion de processus et de projet. Toutes les donnees relatives a la gestion du processus et du projet sont rapportees audit objet du processus de travail (WPO) (1001), lequel est utilise a la maniere d'une base de donnees traditionnelle. D'apres le concept de cette invention, chaque apercu doit avoir pour support un lieu de travail specifique et etre represente par des donnees numeriques, les regles d'un role specifique etant appliquees. Un modele informatif du processus de travail sert de support a la definition et a l'utilisation dynamiques d'un objet de base de donnees representant un processus de travail, tant dans les modes de planification du processus et du projet que lors de l'execution. Toujours d'apres le concept de cette invention, un objet supporte simultanement tous les modes delimites par des barrieres se deplacant de maniere dynamique. L'installation du lieu de travail entraine l'application des regles globales pour chaque role du systeme decrit dans la presente invention.

21/5/19 (Item 19 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00334955 **Image available**

SYSTEM AND METHOD FOR SCHEDULING BROADCAST OF AND ACCESS TO VIDEO PROGRAMS AND OTHER DATA USING CUSTOMER PROFILES

SYSTEME ET PROCEDE DE PLANIFICATION DE LA DIFFUSION DE PROGRAMMES VIDEOS ET AUTRES TYPES DE DONNEES ET DE PLANIFICATION DE L'ACCES A CES DERNIERS AU MOYEN DE PROFILS CLIENTS

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Inventor(s):

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Patent and Priority Information (Country, Number, Date):

Patent: WO 9617467 A2 19960606
Application: WO 95US15429 19951129 (PCT/WO US9515429)
Priority Application: US 94346425 19941129

Designated States: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU
IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NO NZ PL PT RO RU SD
SE SG SI SK TJ TM TT UA UG US UZ VN KE LS MW SD SZ UG AT BE CH DE DK ES
FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

Main International Patent Class: H04N-007/10

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 30275

English Abstract

A system and method for scheduling the receipt of desired movies and other forms of data from a network which simultaneously distributes many sources of such data to many customers, as in a cable television system. Customer profiles are developed for the recipient describing how important certain characteristics of the broadcast video program, movie or other data are to each customer. From these profiles, an "agreement matrix" (908) is calculated by comparing the recipient's profiles to the actual profiles of the characteristics of the available video programs, movies, or other data. The agreement matrix (908) thus characterizes the attractiveness of each video program, movie, or other data to each prospective customer. "Virtual" channels are generated from the agreement matrix (908) to produce a series of video or data programming which will provide the greatest satisfaction to each customer. Feedback paths (1020, 1024) are also provided so that the customer's profiles and/or the profiles of the video programs or other data may be modified to reflect actual usage, and so that the data downloaded to the customer's set top terminal (620) may be minimized. Kiosks (figure 11) are also developed which assist customers in the selection of videos, music, books, and the like in accordance with the customer's objective profiles.

French Abstract

La presente invention concerne un systeme et un procede de planification assurant une reception selective de films et autres formes de donnees a partir d'un reseau qui distribue simultanement, a de nombreux clients, plusieurs sources de donnees de ce type, tel qu'un systeme de television par cable. Les profils clients, developpes pour chaque destinataire, decrivent l'importance relative que chaque client accorde a certaines caracteristiques des programmes videos, des films ou autres types de donnees diffuses. A partir de ces profils, une "matrice d'harmonisation" (908) est calculee par comparaison des profils du destinataire et des profils reels des caracteristiques des programmes video, des films et autres types de donnees disponibles. La "matrice d'harmonisation" (908) caracterise ainsi l'attrait de chaque programme video, film ou autre type de donnees pour chaque client potentiel. Des chaines virtuelles sont creees a partir de la "matrice d'harmonisation" (908) afin de produire une serie de programmes videos ou de donnees qui procureront au client la plus grande satisfaction. Des voies de retour de l'information (1020, 1024) sont egalement disponibles de facon que les profils clients et/ou les profils de programmes videos ou des autres types de donnees puissent etre modifiees pour refleter l'utilisation reelle, et de facon a minimiser le nombre de donnees telechargees sur le terminal du poste du client (620). Des kiosques (figure 11) sont egalement developpes pour aider les clients a choisir des videos, morceaux musicaux, livres et autres donnees

similaires en fonction des profils objectifs du client.

21/5/20 (Item 20 from file: 349)
DIALOG(R) File 349:PCT FULLTEXT
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00121582 **Image available**

AUTOMATIC LIQUID LEVEL INDICATOR AND ALARM SYSTEM
SYSTEME D'ALARME ET D'INDICATION DU NIVEAU D'UN LIQUIDE

Patent Applicant/Assignee:

CLARKSON Marvin Richard,

Inventor(s):

CLARKSON Marvin Richard,

Patent and Priority Information (Country, Number, Date):

Patent: WO 8404837 A1 19841206

Application: WO 80US1378 19801015 (PCT/WO US8001378)

Priority Application: WO 80US521 19800428

Designated States: US

Main International Patent Class: G08B-021/00

International Patent Class: G01F-23:10

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 8980

English Abstract

An automatic liquid level indicator and alarm system (10) that automatically emits an alarm when liquid in a vessel reaches a preselected low or high level. The system (10) is particularly adaptable for use on petroleum storage tanks (50) of the type found on petroleum tanks farms. The system (10) comprises a low-level and a high-level permanent magnet (11) (12); a low-level and a high-level magnetic sensor (24) (25); an encoder-RF transmitter (15) (16); an RF receiver-decoder (18) (19); an alpha-numeric display (20) and an audible alarm (21). The magnets (11) (12) are attached to an existing movable tape (31) whose position at any instant is relative to the position of a float (40) within the tank (50). The magnets (11) (12) are located at positions indicative of the preselected low or high level marks. When either magnet (11) (12) is juxtaposed with its respective sensor (24) (25) a signal is transmitted by the encoder-RF transmitter (15) (16) and is received by the RF receiver-decoder (18) (19) located at a remote monitor station. The signal is displayed on the display (20) and simultaneously the alarm (21) is energized to alert station personnel of the incoming signal.

French Abstract

Un systeme (10) d'alarme et d'indication automatique du niveau d'un liquide declenche automatiquement une alarme lorsqu'un liquide atteint un niveau preselectionne bas ou haut dans un conteneur. Le systeme (10) est particulierement adapte pour etre utilise dans des reservoirs de stockage de petrole (50) que l'on trouve dans des parcs de reservoirs de stockage. Le systeme (10) comprend un aimant permanent de bas niveau et de haut niveau (11, 12), un detecteur magnetique de bas niveau et de haut niveau (24, 25), un codeur-emetteur (HF 15, 16) un decodeur-recepteur HF (18, 19), un affichage alphanumerique (20) et une alarme sonore (21). Les aimants (11, 12) sont fixes a une bande existante mobile (31) dont la position en tout instant est relative par rapport a la position d'un flotteur (40) se trouvant dans le reservoir (50). Les aimants (11, 12) sont places en des positions representant des reperes preselectionnes de bas niveau ou de haut niveau. Lorsque l'un ou l'autre des aimants (11, 12) est juxtapose par rapport a son detecteur respectif (24, 25), un signal est transmis par le codeur-emetteur HF (15, 16) et il est recu par le decodeur-recepteur HF (18, 19) situe dans une station de controle eloignee. Le signal est affiche sur l'affichage (20) et simultanement l'alarme (21) est declenchee pour alerter le personnel de la station du signal arrivant.

Set	Items	Description
S1	3951	KMEAN? OR K()MEAN? ?
S2	5516486	CENTROID? OR CENTER? OR CENTRAL? OR MEDIAN? OR MIDPOINT? OR MID()POINT? OR MIDDLE? OR MEAN OR MEANS
S3	3200316	CLUSTER? OR MATRIX? OR PARTITION? OR DATA()POINT? OR BOUND-AR?
S4	1203928	PARALLEL()PROCESS? OR CONCUR? OR CO()OCCUR? OR COOCCUR? OR SIMULTAN? OR SAME()TIME?
S5	1393057	MOVE? OR REALIGN? OR REASSIGN? OR REDESIGNAT? OR MOVING OR UPDAT? OR UP() (DATE? OR DATING?)
S6	208	S1 AND S4
S7	91	S2(5N)S5 AND S3 AND S4
S8	301	S2 AND S5 AND S3 AND S4 AND (ALGORITHM? OR FORMULA? OR STATISTICAL()METHOD? OR CALCULATION?)
S9	23023	(CLUSTER? OR GROUP? OR DATAPOINT? OR DATA()POINT? OR BOUND-AR?) (2N)S5
S10	3	S6 AND S7
S11	20	S6 AND S8
S12	1	S6 AND S9
S13	34	S8 AND S9
S14	53	S10 OR S11 OR S12 OR S13
S15	37	RD (unique items)
S16	33	S15 NOT PY>2000
S17	33	S16 NOT PD>20001004
File	8:EI Compendex(R)	1970-2003/Feb W2 (c) 2003 Elsevier Eng. Info. Inc.
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File	6:NTIS	1964-2003/Feb W4 (c) 2003 NTIS, Intl Cpyrght All Rights Res
File	144:Pascal	1973-2003/Feb W3 (c) 2003 INIST/CNRS
File	434:SciSearch(R) Cited Ref Sci	1974-1989/Dec (c) 1998 Inst for Sci Info
File	34:SciSearch(R) Cited Ref Sci	1990-2003/Feb W3 (c) 2003 Inst for Sci Info
File	62:SPIN(R)	1975-2003/Jan W3 (c) 2003 American Institute of Physics
File	99:Wilson Appl. Sci & Tech Abs	1983-2003/Jan (c) 2003 The HW Wilson Co.
File	95:TEME-Technology & Management	1989-2003/Feb W2 (c) 2003 FIZ TECHNIK

17/5/1 (Item 1 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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05593718 E.I. No: EIP00065224012

Title: Numerical simulation of heat transfer induced by a body moving in the same direction as flowing fluids

Author: Fu, W.-S.; Yang, S.-J.

Corporate Source: Natl Chiao Tung Univ, Hsinchu, Taiwan

Source: Heat and Mass Transfer/Waerme- und Stoffuebertragung v 36 n 3
2000. p 257-264

Publication Year: 2000

CODEN: HMTRF8 ISSN: 0042-9929

Language: English

Document Type: JA; (Journal Article) Treatment: T; (Theoretical)

Journal Announcement: 0008W2

Abstract: Variations of flow field and heat transfer induced by a body **moving** in the same direction as flowing fluids in a channel were studied numerically. This situation is cataloged to a kind of **moving boundary** problem and an arbitrary Lagrangian-Eulerian description method with a Galerkin finite element **formulation** is adopted to analyze this problem. Several different **moving** velocities of the body and Reynolds numbers are taken into consideration. The results show that the fluids **simultaneously** complement the vacant space induced by the **movement** of the body and new recirculation zones are formed near the body. These phenomena are remarkably different from those of the **moving** body regarded as a stationary body in the flowing fluids by a relative velocity viewpoint. Heat transfer rates of the body are enhanced significantly as the body **moves** rapidly, but the slight enhancement is indicated as the body **moves** slower than the flowing fluids. In the computing range, the **mean** global Nusselt numbers Nu over bar can be approximately expressed as the form of Nu over bar equals $0.62 Re^{**1**/**2}$ minus 2.95. (Author abstract) 15 Refs.

Descriptors: *Heat transfer; Computer simulation; Channel flow; Equations of motion; Galerkin methods; Finite element method; Reynolds number; Nusselt number

Identifiers: Arbitrary Lagrangian-Eulerian method

Classification Codes:

641.2 (Heat Transfer); 723.5 (Computer Applications); 631.1 (Fluid Flow, General); 921.2 (Calculus); 921.6 (Numerical Methods); 931.2 (Physical Properties of Gases, Liquids & Solids)

641 (Heat & Thermodynamics); 723 (Computer Software); 631 (Fluid Flow & Hydrodynamics); 921 (Applied Mathematics); 931 (Applied Physics)

64 (HEAT & THERMODYNAMICS); 72 (COMPUTERS & DATA PROCESSING); 63 (FLUID DYNAMICS & VACUUM TECHNOLOGY); 92 (ENGINEERING MATHEMATICS); 93 (ENGINEERING PHYSICS)

17/5/2 (Item 2 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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05480555 E.I. No: EIP00025037588

Title: Synchronization and load balancing for parallel hierarchical radiosity of complex scenes on a heterogeneous computer network

Author: Meneveau, Daniel; Bouatouch, Kadi

Corporate Source: IRISA, Rennes, Fr

Source: Computer Graphics Forum v 18 n 4 1999. p 201-212

Publication Year: 1999

CODEN: CGFODY ISSN: 0167-7055

Language: English

Document Type: JA; (Journal Article) Treatment: T; (Theoretical)

Journal Announcement: 0004W1

Abstract: In this paper we propose a SPMD parallel hierarchical radiosity **algorithm** relying on a novel **partitioning** method which may apply to any kind of architectural scene. This **algorithm** is based on MPI (Message Passing Interface), a communication library which allows the use of either a heterogeneous set of **concurrent** computers or a parallel computer or both. The database is stored on a common directory and accessed by all the

processors (through NFS case of a network of computers). As the objective is to handle complex scenes such as building interiors, to cope with the problem of memory size, only a subset of the database resides in memory of each processor. This subset is determined with the help of a **partitioning** into 3D cells, **clustering** and visibility **calculations**. A graph expressing visibility between the resulting **clusters** is determined, **partitioned** (with a new method based on classification of **K - means** type) and distributed amongst all the processors. Each processor is responsible for gathering energy (using the Gauss-Seidel method) only for its subset of **clusters**. In order to reduce the disk transfers due to downloading these subsets of **clusters**, we use an ordering strategy based on the traveling salesman **algorithm**. Dynamic load balancing relies on a task stealing approach while termination is detected by configuring the processors into a ring and **moving** a token around this ring. The parallel iterative resolution is of group iterative type. Its mathematical convergence is proven in the appendix. (Author abstract) 20 Refs.

Descriptors: Three dimensional computer graphics; **Parallel processing** systems; **Algorithms**; Graphical user interfaces; Database systems; Iterative methods; Convergence of numerical methods

Identifiers: Parallel hierarchical radiosity **algorithms**; Message passing interfaces (MPI)

Classification Codes:

723.5 (Computer Applications); 722.4 (Digital Computers & Systems);

722.2 (Computer Peripheral Equipment); 723.3 (Database Systems)

723 (Computer Software); 722 (Computer Hardware); 921 (Applied Mathematics)

72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

17/5/3 (Item 3 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

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05047260 E.I. No: EIP98064269631

Title: Vertical profiles of the scattering coefficient of dry atmospheric particles over Europe normalized to air at standard temperature and pressure

Author: Haenel, Gottfried

Corporate Source: Johann Wolfgang Goethe Univ, Frankfurt am Main, Ger

Source: Atmospheric Environment v 32 n 10 May 1998. p 1743-1755

Publication Year: 1998

CODEN: ATENBP ISSN: 1352-2310

Language: English

Document Type: JA; (Journal Article) Treatment: T; (Theoretical)

Journal Announcement: 9808W4

Abstract: **Simultaneous** vertical profiles of the scattering coefficient of the air at one wavelength between 0.475 and 0.75 μ m, temperature, pressure, and relative humidity have been measured from 1973 to 1978, mostly in **Central** and Western Europe. From these results, vertical profiles of the normalized (to air at standard temperature and pressure) scattering coefficients of dry particles were derived. These standardized scattering coefficients are independent of the thermodynamic state of the atmosphere and thus strictly comparable. **Mean** vertical profiles of the normalized scattering coefficients of dry particles from 400 up to 5000 m above **mean** sea level are obtained as results. These profiles are different in continental and maritime air as well as during the summer and the winter half-years. The results allow the **formulation** of simple profile models for the light scattering by mid-latitude particles in the lower troposphere over **Central** and Western Europe. These models are in accordance with our knowledge about the atmospheric **boundary** layer phenomena and indicate that in the **mean** the major particle sources should be at or near the ground. Integrals over the **mean** profiles agree with results from sun photometry. (Author abstract) 36 Refs.

Descriptors: Air pollution; Atmospheric aerosols; Light scattering; Troposphere; **Boundary** layers; Atmospheric **movements**; Climatology; Atmospheric radiation; Mathematical models

Identifiers: Atmospheric **boundary** layer; Scattering coefficients

Classification Codes:

443.1 (Atmospheric Properties); 451.1 (Air Pollution Sources); 804.1 (Organic Components); 804.2 (Inorganic Components); 741.1 (Light/Optics) 451 (Air Pollution); 443 (Meteorology); 804 (Chemical Products); 741 (Optics & Optical Devices) 45 (POLLUTION & SANITARY ENGINEERING); 44 (WATER & WATERWORKS ENGINEERING); 80 (CHEMICAL ENGINEERING); 74 (OPTICAL TECHNOLOGY)

17/5/4 (Item 4 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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05035189 E.I. No: EIP98064250768

Title: Quantitative analysis of MR brain image sequences by adaptive self-organizing finite mixtures

Author: Wang, Yue; Adali, Tulay; Lau, Chi-Ming; Kung, Sun-Yuan
Corporate Source: Catholic Univ of America, Washington, DC, USA
Source: Journal of VLSI Signal Processing Systems for Signal, Image, and Video Technology v 18 n 3 Apr 1998. p 219-239
Publication Year: 1998
CODEN: JVSPED ISSN: 0922-5773
Language: English
Document Type: JA; (Journal Article) Treatment: T; (Theoretical)
Journal Announcement: 9808W2

Abstract: This paper presents an adaptive structure self-organizing finite mixture network for quantification of magnetic resonance (MR) brain image sequences. We present justification for the use of standard finite normal mixture model for MR images and **formulate** image quantification as a distribution learning problem. The finite mixture network parameters are **updated** such that the relative entropy between the true and estimated distributions is minimized. The new learning scheme achieves flexible classifier **boundaries** by forming winner-takes-in probability splits of the data allowing the data to contribute **simultaneously** to multiple regions. Hence, the result is unbiased and satisfies the asymptotic optimality properties of maximum likelihood. To achieve a fully automatic quantification procedure that can adapt to different slices in the MR image sequence, we utilize an information theoretic criterion that we have introduced recently, the minimum conditional bias/variance (MCBV) criterion. MCBV allows us to determine the suitable number of mixture components to represent the characteristics of each image in the sequence. We present examples to show that the new method yields very efficient and accurate performance compared to expectation-maximization, **K - means**, and competitive learning procedures. (Author abstract) 35 Refs.

Descriptors: Magnetic resonance imaging; Image analysis; Neural networks; Brain; Computer simulation; Learning **algorithms**; Probability; Information theory

Identifiers: Image quantification; Finite mixture network

Classification Codes:

701.2 (Magnetism: Basic Concepts & Phenomena); 723.2 (Data Processing); 461.1 (Biomedical Engineering); 723.5 (Computer Applications); 922.1 (Probability Theory); 716.1 (Information & Communication Theory) 701 (Electricity & Magnetism); 723 (Computer Software); 461 (Biotechnology); 922 (Statistical Methods); 716 (Radar, Radio & TV Electronic Equipment) 70 (ELECTRICAL ENGINEERING); 72 (COMPUTERS & DATA PROCESSING); 46 (BIOENGINEERING); 92 (ENGINEERING MATHEMATICS); 71 (ELECTRONICS & COMMUNICATIONS)

17/5/5 (Item 5 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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04288422 E.I. No: EIP95112928547

Title: Second moments, spectra and correlation functions of velocity and temperature fluctuations in the gradient sublayer of a retarded boundary layer

Author: Kader, B.A.

Source: International Journal of Heat and Mass Transfer v 39 n 2 Jan 1996. p 331-346

Publication Year: 1996

CODEN: IJHMAK ISSN: 0017-9310

Language: English

Document Type: JA; (Journal Article) Treatment: T; (Theoretical); X; (Experimental)

Journal Announcement: 9601W3

Abstract: The turbulent structure of velocity and temperature fields in **moving** equilibrium retarded **boundary** layers is analyzed. Most attention is given to 'the gradient sublayer', where, according to Ginevskii and Solodkin left bracket Prikl. Mat. Mech. (Appl. Math. Mech.) 22, 819-825 (1958) right bracket, Stratford left bracket J. Fluid Mech. 5, 1-16; 17-35 (1959) left bracket and Perry et al. left bracket J. Fluid Mech. 25, 299-320 (1966) right bracket, the **mean** velocity and temperature profiles are described by the half-power and inverse half-power laws. Kader left bracket Dokl. Akad. Nauk U.S.S.R. 279, 323-327 (1984); Int. J. Heat Mass Trans. 34, 2837-2857 (1991) right bracket deduced **formulas** for spectra and cospectra of velocity components and temperature in the gradient sublayer for the mesoscale range of wave numbers k by dimensional analysis and then compared them with available experimental data. It is shown that accurate determination of velocity variances and Reynolds stresses requires taking into account the contribution of large-scale turbulent disturbances corresponding to small values of k . It is not so for determination of the temperature variance and vertical heat flux evaluation. An analysis of low wave number parts of velocity and temperature spectra and cospectra is given, and its results are used to determine the correlation functions of turbulent fluctuations in the gradient sublayer. The **formulas** for one-point second-order moments (variances left angle bracket t^{**2} right angle bracket, left angle bracket u^{**2} right angle bracket and left angle bracket v^{**2} right angle bracket, temperature flux left angle bracket vt right angle bracket, and Reynolds stress left angle bracket uv right angle bracket) in the gradient sublayer of quasi-equilibrium flows are also derived and compared with the available data. Comparison of calculated and experimental spectra of non-equilibrium retarded flows uncovers disagreement in the mesoscale wave number part of the spectra for vertical velocity and Reynolds stress fluctuations. At the **same time** longitudinal fluctuation spectra and one-point variance left angle bracket u^{**2} right angle bracket prove to be less sensitive to non-equilibrium conditions. (Author abstract) 25 Refs.

Descriptors: **Boundary** layers; Turbulent flow; Velocity; Temperature; Reynolds number; Heat flux

Identifiers: Retarded **boundary** layer; Second moments; Gradient sublayer; Correlation functions; Temperature variance

Classification Codes:

631.1 (Fluid Flow, General); 641.1 (Thermodynamics); 641.2 (Heat Transfer)

631 (Fluid Flow & Hydrodynamics); 641 (Heat & Thermodynamics)

63 (FLUID DYNAMICS & VACUUM TECHNOLOGY); 64 (HEAT & THERMODYNAMICS)

17/5/6 (Item 6 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

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04193230 E.I. No: EIP95062753101

Title: **Segmentation of brain parenchyma and cerebrospinal fluid in multispectral magnetic resonance images**

Author: Lundervold, Arvid; Storvik, Geir

Corporate Source: Univ of Bergen, Bergen, Norway

Source: IEEE Transactions on Medical Imaging v 14 n 2 Jun 1995. p 339-349

Publication Year: 1995

CODEN: ITMID4 ISSN: 0278-0062

Language: English

Document Type: JA; (Journal Article) Treatment: T; (Theoretical)

Journal Announcement: 9508W4

Abstract: This paper presents a new method to segment brain parenchyma and cerebrospinal fluid spaces automatically in routine axial spin echo

multispectral MR images. The algorithm simultaneously incorporates information about anatomical boundaries (shape) and tissue signature (grey scale) using a priori knowledge. The head and brain are divided into four regions and seven different tissue types. Each tissue type c is modeled by a multivariate Gaussian distribution $N(\mu //c, \text{Sigma} //c)$. Each region is associated with a finite mixture density corresponding to its constituent tissue types. Initial estimates of tissue parameters left brace $\mu //c, \text{Sigma} //c$ right brace c equals 1, ..., 7 are obtained from k - means clustering of a single slice used for training. The first algorithmic step uses the EM- algorithm for adjusting the initial tissue parameter estimates to the MR data of new patients. The second step uses a recently developed model of dynamic contours to detect three simply closed noninteresting curves in the plane, constituting the arachnoid/dura mater boundary of the brain, the border between the subarachnoid space and brain parenchyma, and the inner border of the parenchyma toward the lateral ventricles. The model, which is formulated by energy functions in a Bayesian framework, incorporates a priori knowledge, smoothness constraints, and updated tissue type parameters. Satisfactory maximum a posteriori probability estimates of the closed contour curves defined by the model were found using simulated annealing. (Author abstract) 56 Refs.

Descriptors: Image segmentation; Magnetic resonance imaging; Brain; Algorithms ; Tissue; Statistical methods ; Parameter estimation; Mathematical models; Medical imaging; Probability
Identifiers: Cerebrospinal fluid; Anatomical boundaries ; Arachnoid; Dura mater

Classification Codes:
461.1 (Biomedical Engineering); 461.2 (Biological Materials); 723.1 (Computer Programming); 922.2 (Mathematical Statistics); 922.1 (Probability Theory); 921.5 (Optimization Techniques)
461 (Biotechnology); 723 (Computer Software); 922 (Statistical Methods); 921 (Applied Mathematics)
46 (BIOENGINEERING); 72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

17/5/7 (Item 7 from file: 8)
DIALOG(R)File 8: Ei Compendex(R)
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03960644 E.I. No: EIP94101421711

Title: Kinetic analysis of a bimetallic ion exchange system by microscopic measurement of the moving boundaries

Author: Mijangos, Federico; Diaz, Mario
Corporate Source: Univ of Pais Vasco, Spain
Source: Journal of Colloid and Interface Science v 164 n 1 Apr 1994. p 215-222

Publication Year: 1994
CODEN: JCISA5 ISSN: 0021-9797
Language: English
Document Type: JA; (Journal Article) Treatment: T; (Theoretical); X; (Experimental)
Journal Announcement: 9412W1

Abstract: Two different colored layers surrounding the central core have been observed during the simultaneous uptake of copper and cobalt onto an iminodiacetic-type ion exchange resin that was initially in the sodium form. By measuring their width it is possible to calculate metal load on the basis of the local equilibrium assumption by using an equilibrium model for multimetallic systems. A kinetic pseudohomogeneous model has been developed which considers two successive mechanisms: first, diffusion of metal ions through the reacted layer, and second, metal-metal displacement from the solid phase. (Author abstract) 24 Refs.

Descriptors: Ion exchange; Reaction kinetics; Microscopic examination; Copper; Cobalt; Ion exchange resins; Diffusion; Ions; Mathematical models; Calculations
Identifiers: Bimetallic ion exchange system; Kinetic analysis; Metal load ; Equilibrium model
Classification Codes:
802.2 (Chemical Reactions); 741.3 (Optical Devices & Systems); 544.1

(Copper); 549.3 (Others, including Bismuth, Boron, Cadmium, Cobalt, Mercury, Niobium, Selenium, Silicon, Tellurium & Zirconium); 802.1 (Chemical Plants & Equipment); 921.6 (Numerical Methods) 802 (Chemical Apparatus & Plants); 741 (Optics & Optical Devices); 544 (Copper & Alloys); 549 (Nonferrous Metals & Alloys); 921 (Applied Mathematics) 80 (CHEMICAL ENGINEERING); 74 (OPTICAL TECHNOLOGY); 54 (METAL GROUPS); 92 (ENGINEERING MATHEMATICS)

17/5/8 (Item 8 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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03413897 E.I. Monthly No: EIM9204-016928

Title: Implicit finite difference solution of phase change problems via coupling the enthalpy and moving boundary .

Author: Zeng, X.; Xin, M. D.

Corporate Source: Chongqing Univ, Chongqing, China

Conference Title: 28th National Heat Transfer Conference

Conference Location: Minneapolis, MN, USA Conference Date: 19910728

Sponsor: ASME, Heat Transfer Div

E.I. Conference No.: 15208

Source: Phase Change Heat Transfer - 1991 American Society of Mechanical Engineers, Heat Transfer Division, (Publication) HTD v 159. Publ by ASME, New York, NY, USA. p 47-52

Publication Year: 1991

CODEN: ASMHD8 ISSN: 0272-5673 ISBN: 0-7918-0728-2

Language: English

Document Type: PA; (Conference Paper) Treatment: T; (Theoretical)

Journal Announcement: 9204

Abstract: Phase Change problems arise in a large number of applications including melting and solidification. The conventional treatment is the enthalpy method in which the **moving** interface is not **simultaneously** tracked but located a posteriori from interpolation or extrapolation of the calculated temperature values. In this paper an implicit finite difference solution of multidimensional phase change problems is developed and presented by **means** of coupling the enthalpy and **moving boundary** . The solution is based on separation of sensible and latent heat terms in an enthalpy **formulation** . By introducing the concepts of directional phase change ratio and volume phase change ratio, making the assumption of straight line phase interface, and improving the representation of heat flux density in the control volume containing the **moving boundary** , the sensible specific enthalpy (temperature) and **moving boundary** are coupled in a nonlinear system of discretized equations. Finally, the results of two test problems with different characteristics are given that show the effect of the present method. (Author abstract) 21 Refs.

Descriptors: *HEAT TRANSFER--*Analysis; MATHEMATICAL TECHNIQUES--Finite Difference Method; THERMODYNAMICS

Identifiers: PHASE CHANGE PROBLEMS; ENTHALPY METHOD; IMPLICIT FINITE DIFFERENCE SOLUTION; VOLUME PHASE CHANGE RATIO

Classification Codes:

641 (Heat & Thermodynamics); 921 (Applied Mathematics)

64 (HEAT & THERMODYNAMICS); 92 (ENGINEERING MATHEMATICS)

17/5/9 (Item 9 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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02864850 E.I. Monthly No: EIM9002-009267

Title: Artifact detection in sleep EEG recording.

Author: Lima, P.; Leitao, J.; Paiva, T.

Corporate Source: Centro de Analise e Processamento de Sinais/Instituto Superior Tecnico, Lisbon, Port

Conference Title: Mediterranean Electrotechnical Conference (MELECON'89)

- Proceedings

Conference Location: Lisbon, Portugal Conference Date: 19890411

Sponsor: IEEE, Communications Soc, New York, NY, USA; IEEE, Power Electronics Soc, New York, NY, USA; IEEE, Education Soc, USA

E.I. Conference No.: 12768

Source: Mediterr Electrotec Conf Proc. Publ by IEEE, IEEE Service Center, Piscataway, NJ, USA. Available from IEEE Service Cent (cat n 89CH2679-9), Piscataway, NJ, USA. p 273-277

Publication Year: 1989

Language: English

Document Type: PA; (Conference Paper) Treatment: A; (Applications); X; (Experimental)

Journal Announcement: 9002

Abstract: An investigation was conducted with the aim of achieving a completely automatic detection of artifacts resulting from muscular activity and ocular **movements** superimposed on an electroencephalogram (EEG) signal. Muscular artifacts were detected by a pattern-recognition approach; different features were tested to achieve reliable and real-time results. Pattern classes were constructed based on selected features and using the **K - means clustering algorithm**. Fisher's linear discriminant, Mahalanobis distance, and the Q-NN rule were the methods tested within the task of supervised classification, using the pattern classes found in the **clustering** step. Ocular artifacts were detected by an **algorithm** which compares **simultaneously** recorded EOG (electrooculogram) and EEG signals. Whenever a significant correlation between them is found, an ocular artifact is detected. If one or both of those artifact types are detected, the actual segment is replaced by an EEG simulation using an AR (autoregressive) modeled system driven by Gaussian white noise at its input. 5 Refs.

Descriptors: *BIOMEDICAL ENGINEERING--*Electroencephalography; PATTERN RECOGNITION; SIGNAL FILTERING AND PREDICTION

Identifiers: SLEEP EEG RECORDING; ARTIFACT DETECTION; MUSCULAR ARTIFACTS; MAHALANOBIS DISTANCE; OCULAR ARTIFACTS; **CLUSTERING**

Classification Codes:

461 (Biotechnology); 723 (Computer Software); 731 (Automatic Control Principles)

46 (BIOENGINEERING); 72 (COMPUTERS & DATA PROCESSING); 73 (CONTROL ENGINEERING)

17/5/10 (Item 1 from file: 35)

DIALOG(R)File 35:Dissertation Abs Online

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01777731 ORDER NO: AADAA-I9989773

Simultaneous **multi-frame subpixel boundary definition using toboggan-based intelligent scissors for image and movie editing**

Author: Mortensen, Eric Nephi

Degree: Ph.D.

Year: 2000

Corporate Source/Institution: Brigham Young University (0022)

Adviser: William A. Barrett

Source: VOLUME 61/10-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 5411. 273 PAGES

Descriptors: COMPUTER SCIENCE

Descriptor Codes: 0984

ISBN: 0-599-97795-7

Intelligent Scissors is an interactive image segmentation tool that allows a user to select piece-wise globally optimal contour segments (based on an optimal path search in a graph) that correspond to a desired object **boundary**. This dissertation uses tobogganing to raise the granularity of the image primitive above the pixel level, producing a region-based basic processing unit that is object- **centered** rather than device-dependent. The resulting region-based elements form the basis for several contributions to the field of computer vision general and to Intelligent Scissors in particular. These contributions reduce the human time and effort needed for object selection with Intelligent Scissors while **simultaneously** increasing the accuracy of **boundary** definition.

The region-based image primitives resulting from tobogganing form the

basis for a graph **formulation** that is many times smaller than the pixel-based graph used previously by Intelligent Scissors, thus providing faster, more interactively responsive optimal path computations. The object- **centered** atomic units also provide an efficient and consistent framework in which to compute a 4-parameter edge model, allowing subpixel **boundary** localization, noise-independent edge blur adjustment, and automatic alpha matte generation and color separation of **boundary** transition pixels. The increased size of the basic processing unit also facilitates an edge confidence measure that forms the basis for two new techniques called *confidence threshold snapping* and *live-wire path extension*, which further reduce the human burden involved with object **boundary** definition by automatically finding and following object **boundaries**. Finally, this dissertation presents a new paradigm for **simultaneously** interacting with multiple frames from a temporal image sequence by parallelizing both the user input and the interactive visual feedback, thus allowing a user to interact with a montage of image frames in order to define the **boundary** of a **moving** object while adhering to the same interactive style that has demonstrated to be effective for the single-image Intelligent Scissors.

17/5/11 (Item 2 from file: 35)
 DIALOG(R)File 35:Dissertation Abs Online
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01681742 ORDER NO: AAD99-14723
INSTRUCTION SCHEDULING AND FETCH MECHANISMS FOR CLUSTERED VLIW PROCESSORS
 (CLUSTERED MICROPROCESSORS)
 Author: BANERJIA, SANJEEV
 Degree: PH.D.
 Year: 1998
 Corporate Source/Institution: NORTH CAROLINA STATE UNIVERSITY (0155)
 Chair: THOMAS M. CONTE
 Source: VOLUME 59/12-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
 PAGE 6376. 121 PAGES
 Descriptors: COMPUTER SCIENCE
 Descriptor Codes: 0984

The design of high-performance microprocessors involves the use of innovative architectural and micro-architectural techniques and aggressive technology. As issue widths increase to enable greater degrees of instruction-level parallelism (ILP), the number of ports on the register file must also increase to allow all operations that are issued **simultaneously** to read and write their operands. However, it is difficult to construct a register file with a large number of read ports without stretching the cycle time of the processor. An alternative is to build processors that use multiple, disjoint register files instead of **central**, monolithic ones. Sets of register files and functional units (FU) can be grouped together as *clusters*, such that multiple **clusters** constitute the entire processor.

When an operation executing on a **clustered** processor requires (register) source operands that reside on different **clusters**, some form of inter- **cluster** communication must be used so that the operation can read its source operands. For a VLIW architecture, the compiler must manage the data **movements** between the **clusters**. As a **clustered** organization becomes more important in the design of present-day processors, especially VLIW processors, compiler technology must manage the intercluster data **movements**. This thesis explores three key issues germane to the design of **clustered** processors:

Cluster scheduling. This is the compile-time scheduling of inter- **cluster** data **movements**. The most prominent prior work in the area is the Bottom-up Greedy (BUG) **algorithm** from Ellis's PhD work and used in the compiler for the Multiflow TRACE family of commercial VLIW machines. A new **algorithm** is presented that performs the assignment of operations to **clusters** and schedules all operations and data **movements** within a single compiler phase. The **algorithm** is named Unified-Assign-and-Schedule or UAS. The **algorithm** is shown to be effective at producing high-performance code schedules with less code

expansion than BUG.

Evaluating different clustered machine models. A wide variety of machine models can be used when implementing a clustered processor. However, certain configurations are certainly more appropriate than others. A range of machine models are simulated to gauge what models are best-suited as clustered processors.

Instruction fetch for clustered processors. Fetching instructions across a wide clustered machine is not as straightforward as on a non-clustered machine. However, there are issues common to both types of machines. I-fetch for non-clustered VLIWs is presented to highlight the critical points. One important issue is how branch operations are executed on a clustered VLIW machine. The Prepare-To-Branch (PBR) branch architecture is reviewed and applied to the address the problem of a taken-branch penalty. Two hardware structures, the NextPC queue and the Parallel NextPC (P-NextPC) queue, are introduced as mechanisms that permit maximum compiler scheduling freedom for the PBR architecture. Also, b-caches (branch caches) and branch replication are described as methods for overcoming the latency for transmitting a PC across a clustered machine.

The thesis concludes by discussing ideas for future work in the three areas.

17/5/12 (Item 3 from file: 35)

DIALOG(R)File 35:Dissertation Abs Online

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917938 ORDER NO: AAD86-10935

ADAPTIVE FINITE ELEMENT ANALYSIS OF NONLINEAR FRICTIONAL CONTACT WITH MIXED EULERIAN-LAGRANGIAN COORDINATES

Author: HARIANDJA, BINSAR HALOMOAN

Degree: PH.D.

Year: 1986

Corporate Source/Institution: UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN (0090)

Source: VOLUME 47/03-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 1179. 178 PAGES

Descriptors: ENGINEERING, CIVIL

Descriptor Codes: 0543

This work is concerned with new computational methods for the analysis of frictional contact problems. Several new computational techniques are employed. The new techniques are first presented in their generic form, before specialization to the problem of contact analysis. A new finite element model based on a mixed Eulerian-Lagrangian kinematic description is reviewed. The mixed kinematic model treats both initial and deformed nodal coordinates as unknowns. This feature enables the element mesh to adaptively adjust to moving boundary conditions. A consistent finite element technique for the recovery of surface tractions and distributed reactions is reviewed. This technique is combined with the adaptive capability of the Eulerian-Lagrangian model to formulate the sensitivity of computed surface tractions to changes in the finite element grid geometry.

A new topological description of the frictional contact problem is introduced, in which criteria involving the contact stresses are used to define the locations of transition contours separating zones of different contact behavior (stick, slip, separation). A solution to the contact problem is obtained by determining transition contour locations and an associated displacement solution that simultaneously satisfy the transition stress criteria, the special contact boundary conditions and the usual equilibrium, compatibility and material behavior constraints.

The new computational techniques and the topological contact problem definition are combined to create novel finite element solution algorithms. Contact analysis is treated as a bi-level programming problem. The upper-level problem involves the determination of contour locations that minimize residuals associated with the transition stress criteria. The subordinate problem involves satisfaction of the equilibrium and kinematic requirements by minimization of an energy functional or an equivalent

weighted residuals problem

Two frictional contact **algorithms** are presented. The first **algorithm** determines the contact zone topology and geometry by means of a heuristic iterative analysis. The second **algorithm** uses adaptive Eulerian-Lagrangian remeshing to determine precise transition contour locations for a predetermined contact zone topology. The two **algorithms** can be applied in sequence to obtain automatic and accurate contact solutions. Example problems involving large deformations, curved contact surfaces and cyclic loading are included.

17/5/13 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

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6356570 INSPEC Abstract Number: C1999-10-1230D-106

Title: Massively parallel probabilistic reasoning with Boltzmann machines

Author(s): Myllymaki, P.

Author Affiliation: Dept. of Comput. Sci., Helsinki Univ., Finland

Journal: Applied Intelligence: The International Journal of Artificial Intelligence, Neural Networks, and Complex Problem-Solving Technologies
vol.11, no.1 p.31-44

Publisher: Kluwer Academic Publishers,

Publication Date: July-Aug. 1999 Country of Publication: Netherlands

CODEN: APITE4 ISSN: 0924-669X

SICI: 0924-669X(199907/08)11:1L:31:MPPR;1-H

Material Identity Number: 0515-1999-003

U.S. Copyright Clearance Center Code: 0924-669X/99/\$9.50

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: We present a method for mapping a given Bayesian network to a Boltzmann machine architecture, in the sense that the the **updating** process of the resulting Boltzmann machine model probably converges to a state which can be mapped back to a maximum a posteriori (MAP) probability state in the probability distribution represented by the Bayesian network. The Boltzmann machine model can be implemented efficiently on massively parallel hardware, since the resulting structure can be divided into two separate **clusters** where all the nodes in one **cluster** can be **updated simultaneously**. This **means** that the proposed mapping can be used for providing Bayesian network models with a massively parallel probabilistic reasoning module, capable of finding the MAP states in a computationally efficient manner. From the neural network point of view, the mapping from a Bayesian network to a Boltzmann machine can be seen as a method for automatically determining the structure and the connection weights of a Boltzmann machine by incorporating high-level, probabilistic information directly into the neural network architecture, without recourse to a time-consuming and unreliable learning process. (63 Refs)

Subfile: C

Descriptors: belief networks; Boltzmann machines; computational complexity; inference mechanisms; parallel **algorithms**

Identifiers: massively parallel probabilistic reasoning; Bayesian network; Boltzmann machine architecture; maximum a posteriori probability state; MAP probability state; massively parallel probabilistic reasoning module; computational efficiency; high-level probabilistic information; neural network architecture

Class Codes: C1230D (Neural nets); C1160 (Combinatorial mathematics); C1230R (Reasoning and inference in AI); C4240P (Parallel programming and algorithm theory); C4240C (Computational complexity)

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17/5/14 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

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6167959 INSPEC Abstract Number: C1999-03-6160Z-019

Title: Scaling clustering algorithms to large databases

Author(s): Bradley, P.; Fayyad, U.; Reina, C.
Author Affiliation: Microsoft Res., Redmond, WA, USA
Conference Title: Proceedings Fourth International Conference on
Knowledge Discovery and Data Mining p.9-15
Editor(s): Agrawal, R.; Stolorz, P.
Publisher: AAAI Press, Menlo Park, CA, USA
Publication Date: 1998 Country of Publication: USA xii+382 pp.
ISBN: 1 57735 070 7 Material Identity Number: XX-1998-02231
Conference Title: Proceedings of the Fourth International Conference on
Knowledge Discovery and Data Mining
Conference Date: 27-31 Aug. 1998 Conference Location: New York, NY,
USA
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P)
Abstract: Practical **clustering algorithms** require multiple data scans
to achieve convergence. For large databases, these scans become
prohibitively expensive. We present a scalable **clustering** framework
applicable to a wide class of iterative **clustering**. We require at most
one scan of the database. In this work, the framework is instantiated and
numerically justified with the popular **K - Means clustering algorithm**
. The method is based on identifying regions of the data that are
compressible, regions that must be maintained in memory, and regions that
are discardable. The **algorithm** operates within the confines of a limited
memory buffer. Empirical results demonstrate that the scalable scheme
outperforms a sampling based approach. In our scheme, data resolution is
preserved to the extent possible based upon the size of the allocated
memory buffer and the fit of current **clustering** model to the data. The
framework is naturally extended to **update** multiple **clustering** models
simultaneously. We empirically evaluate on synthetic and publicly
available data sets. (29 Refs)

Subfile: C

Descriptors: data handling; data mining; pattern **clustering**; very large
databases

Identifiers: **clustering algorithm** scaling; large databases; practical
clustering algorithms; multiple data scans; scalable **clustering**
framework; iterative **clustering**; database scanning; numerical
justification; **K - Means clustering algorithm**; limited memory buffer;
scalable scheme; sampling based approach; data resolution; allocated memory
buffer; multiple **clustering** models; publicly available data sets

Class Codes: C6160Z (Other DBMS); C6170K (Knowledge engineering
techniques); C1250 (Pattern recognition); C6130 (Data handling techniques
)

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17/5/15 (Item 3 from file: 2)

DIALOG(R) File 2:INSPEC

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6034726 INSPEC Abstract Number: B9811-6430H-001, C9811-5260B-088

Title: **MPEG-4 based interactive video using** parallel processing

Author(s): Yong He; Ahmad, T.; Liou, M.L.

Author Affiliation: Dept. of Electr. & Electron. Eng., Hong Kong Univ. of
Sci. & Technol., Hong Kong

Conference Title: Proceedings. 1998 International Conference on Parallel
Processing (Cat. No.98EX205) p.329-36

Editor(s): Lai, T.H.

Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA

Publication Date: 1998 Country of Publication: USA xix+630 pp.

ISBN: 0 8186 8650 2 Material Identity Number: XX98-02390

U.S. Copyright Clearance Center Code: 0190 3918/98/\$10.00

Conference Title: Proceedings 1998 International Conference on Parallel
Processing

Conference Sponsor: Inst. Assoc. Comput. & Commun.; Ohio State Univ

Conference Date: 10-14 Aug. 1998 Conference Location: Minneapolis, MN,
USA

Language: English Document Type: Conference Paper (PA)

Treatment: Applications (A); Practical (P)

Abstract: MPEG-4 which is currently being developed by MPEG (Moving Pictures Experts Group), is poised to become a standard for supporting current and emerging interactive multimedia applications. The objective of MPEG-4 is to support content-based compression, communication, access and manipulation of digital objects which can be natural or synthetic. Since MPEG-4 based video consists of objects and provides full interactivity between the client and the server, a software-based implementation seems to be the only viable approach for building an MPEG-4 encoder. **Parallel processing** solves the problem of large computational requirements for building a real-time encoder. In this paper, we describe a parallel implementation of MPEG-4 video encoder using a **cluster** of workstations collectively working as a virtual machine. Parallelization of the MPEG-4 encoder poses an interesting problem since not only can objects be added or deleted from a video scene but their sizes and shapes may vary with time. Moreover, some of the computationally intensive parts of the encoder are non-uniform **algorithms** , which means their execution times are data dependent and cannot be predicted in advance. In order to guarantee the spatio-temporal relationship between various objects in a video, we propose a real-time scheduling **algorithm** for exploiting parallelism in the temporal domain. The **algorithm** divides the workstations into a number of groups and assigns one video object to one group of workstations for encoding. A dynamic shape-adaptive data **partitioning** strategy is proposed to exploit parallelism in the spatial domain. The **partitioning** strategy divides the data of an object among the workstations within a group. The scheduling scheme ensures the synchronization requirements among multiple objects while the dynamic data parallel approach adapts to the object shape variations to balance the load for all the workstations. The performance of the encoder can scale according to the number of workstations used. With 20 workstations, the encoder yields an encoding rate higher than real-time, allowing to encode multiple sequences **simultaneously** . (24 Refs)

Subfile: B C

Descriptors: data compression; interactive video; multimedia systems; **parallel processing** ; synchronisation; video coding

Identifiers: MPEG-4 based interactive video; **parallel processing** ; **Moving Pictures Experts Group** ; interactive multimedia; content-based compression; digital objects manipulation; software-based implementation; MPEG-4 encoder; real-time encoder; **cluster** of workstations; virtual machine; spatio-temporal relationship; real-time scheduling **algorithm** ; dynamic shape-adaptive data **partitioning** strategy; synchronization requirements; dynamic data parallel approach; performance

Class Codes: B6430H (Video recording); B6120B (Codes); B6140C (Optical information, image and video signal processing); C5260B (Computer vision and image processing techniques); C5220P (Parallel architecture); C6150N (Distributed systems software); C6130M (Multimedia)

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17/5/16 (Item 4 from file: 2)

DIALOG(R) File 2:INSPEC

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6022029 INSPEC Abstract Number: A9820-4760-010

Title: Unsteady flow of an axisymmetric annular film under gravity

Author(s): Housiadas, K.; Tsamopoulos, J.

Author Affiliation: Dept. of Chem. Eng., Patras Univ., Greece

Journal: Physics of Fluids vol.10, no.10 p.2500-16

Publisher: AIP,

Publication Date: Oct. 1998 Country of Publication: USA

CODEN: PHFLE6 ISSN: 1070-6631

SICI: 1070-6631(199810)10:10L:2500:UFAA;1-M

Material Identity Number: B479-98009

U.S. Copyright Clearance Center Code: 1070-6631/98/10(10)/2500(17)/\$15.00

Document Number: S1070-6631(98)01610-9

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: The unsteady flow of an annular and axisymmetric film under gravity is examined. This **moving boundary** problem is solved by mapping the inner and the outer interface of the film in the radial direction onto

fixed ones and by transforming the governing equations accordingly. The ratio of the film thickness to its inner radius at the exit of the die is small in relevant processes with polymer melts. This ratio, ϵ , is used as the small parameter in a perturbation expansion of the general Navier-Stokes equations. Forces applied on the film include gravity, surface tension, inertia, and viscous forces. Their ratios give rise to three dimensionless numbers, St , Ca , and Re . When these dimensionless numbers are up to order one, the base state is quite deformed and it is calculated numerically by **simultaneously** solving three nonlinear partial differential equations in time and the axial direction. Intuitively it is expected that when the dimensionless numbers are small the base state in the perturbation scheme is a uniformly falling film. This is confirmed by analysis and the two next orders in the perturbation scheme are calculated analytically. In both cases, it was found that increasing the St number (i) accelerates the downward motion of the film, (ii) deflects its inner and outer surfaces towards its axis of symmetry, and (iii) decreases its thickness around the **middle** of its length. The latter effect may lead to breakup of the film in two parts. It was also found that increasing the Ca number deflects these two interfaces towards its axis of symmetry and increases its thickness monotonically with time and the axial distance. Increasing the Re number from zero, but to not very large values, generally decelerates the film and decreases its deflection from the vertical. Given typical fluid properties and process conditions the St number is up to $O(\epsilon^{1/2})$, i.e., much larger than the other two dimensionless numbers, and affects the film shape more significantly. (21 Refs)

Subfile: A

Descriptors: flow instability; Navier-Stokes equations; nonlinear differential equations; partial differential equations; pipe flow; polymer melts; surface tension

Identifiers: unsteady flow; axisymmetric annular film; gravity; **moving boundary** problem; governing equations; polymer melts; perturbation expansion; general Navier-Stokes equations; surface tension; inertia; viscous forces; numerical **calculation**; nonlinear partial differential equations; perturbation scheme; analytical **calculation**; fluid properties

Class Codes: A4760 (Flows in ducts, channels, and conduits); A4720 (Hydrodynamic stability and instability); A4750 (Non-Newtonian dynamics); A6810C (Fluid surface energy (surface tension, interface tension, angle of contact, etc.))

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17/5/17 (Item 5 from file: 2)

DIALOG(R)File 2:INSPEC

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5948562 INSPEC Abstract Number: A9815-8760I-008, B9808-7510B-035, C9808-7330-026

Title: Quantitative analysis of MR brain image sequences by adaptive self-organizing finite mixtures

Author(s): Yue Wang; Adali, T.; Chi-Ming Lau; Sun-Yuan Kung

Author Affiliation: Dept. of Electr. Eng. & Comput. Sci., Catholic Univ. of America, Washington, DC, USA

Journal: Journal of VLSI Signal Processing Systems for Signal, Image, and Video Technology vol.18, no.3 p.219-39

Publisher: Kluwer Academic Publishers,

Publication Date: April 1998 Country of Publication: Netherlands

CODEN: JVSPED ISSN: 0922-5773

SICI: 0922-5773(199804)18:3L:219:QABI;1-I

Material Identity Number: G259-98003

U.S. Copyright Clearance Center Code: 0922-5773/98/\$9.50

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P); Theoretical (T); Experimental (X)

Abstract: This paper presents an adaptive structure self-organizing finite mixture network for quantification of magnetic resonance (MR) brain image sequences. We present justification for the use of standard finite normal mixture model for MR images and **formulate** image quantification as a distribution learning problem. The finite mixture network parameters are **updated** such that the relative entropy between the true and estimated

distributions is minimized. The new learning scheme achieves flexible classifier **boundaries** by forming winner-takes-in probability splits of the data allowing the data to contribute **simultaneously** to multiple regions. Hence, the result is unbiased and satisfies the asymptotic optimality properties of maximum likelihood. To achieve a fully automatic quantification procedure that can adapt to different slices in the MR image sequence, we utilize an information theoretic criterion that we have introduced recently, the minimum conditional bias/variance (MCBV) criterion. MCBV allows us to determine the suitable number of mixture components to represent the characteristics of each image in the sequence. We present examples to show that the new method yields very efficient and accurate performance compared to expectation-maximization, **K - means**, and competitive learning procedures. (35 Refs)

Subfile: A B C

Descriptors: Bayes methods; biomedical NMR; brain; image classification; image segmentation; image sequences; maximum entropy methods; maximum likelihood estimation; medical image processing; neural nets; unsupervised learning

Identifiers: MRI brain image sequences; quantitative analysis; adaptive self-organizing finite mixtures; standard finite normal mixture model; image quantification; distribution learning problem; minimized relative entropy; estimated distributions; true distributions; flexible classifier **boundaries**; winner-takes-in probability splits; multiple regions; asymptotic optimality properties; maximum likelihood; fully automatic quantification procedure; information theoretic criterion; minimum conditional bias/variance criterion; number of mixture components; unsupervised scheme; image statistics; stochastic model; pixel classification; incremental stochastic learning **algorithm**; Bayesian soft splits; ergodic theorem; maximum entropy

Class Codes: A8760I (Medical magnetic resonance imaging and spectroscopy); A8740 (Biomagnetism); A8770E (Patient diagnostic methods and instrumentation); A0250 (Probability theory, stochastic processes, and statistics); A0650D (Data gathering, processing, and recording, data displays including digital techniques); B7510B (Radiation and radioactivity applications in biomedicine); B6140C (Optical information, image and video signal processing); B6110 (Information theory); B0240Z (Other topics in statistics); C7330 (Biology and medical computing); C5260B (Computer vision and image processing techniques); C1250 (Pattern recognition); C1260 (Information theory); C1230D (Neural nets); C5290 (Neural computing techniques); C1140Z (Other topics in statistics)

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17/5/18 (Item 6 from file: 2)

DIALOG(R)File 2:INSPEC

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5259322 INSPEC Abstract Number: A9611-4328-002, C9606-7320-087

Title: **A new efficient algorithm for computational aeroacoustics on parallel processors**

Author(s): Ozyoruk, Y.; Long, L.N.

Author Affiliation: Dept. of Aerosp. Eng., Pennsylvania State Univ., University Park, PA, USA

Journal: Journal of Computational Physics vol.125, no.1 p.135-49

Publisher: Academic Press,

Publication Date: April 1996 Country of Publication: USA

CODEN: JCTPAH ISSN: 0021-9991

SICI: 0021-9991(199604)125:1L.135:EACA;1-E

Material Identity Number: J039-96005

U.S. Copyright Clearance Center Code: 0021-9991/96/\$18.00

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: One of the great challenges in computational physics is the prediction of flow associated noise, where the quantities of interest, namely the sound waves can be at high frequencies and are usually orders of magnitude smaller in magnitude than the **mean** quantities. In order to numerically resolve such small scales governed by the fluid dynamics equations, high resolution schemes are required. Thus solutions of flow

noise problems are computationally intensive. An efficient, hybrid, data parallel computational aeroacoustics **algorithm** has been developed for the prediction of noise radiation and scattering from three-dimensional geometries. The **algorithm** solves the Euler/Navier-Stokes equations in the interior and nonreflecting **boundary** conditions on the outer **boundaries**. A **moving** surface Kirchhoff method is coupled to the flow solver for far-field predictions. The **algorithm** uses standard time and spatial discretization techniques but utilizes several new optimization strategies that are highly suitable for single zone solutions on data **parallel processors**. One strategy, for example, enables **simultaneous** residual evaluations of the interior and far-field nonreflecting **boundary** conditions equations, reducing the computational effort spent on them by approximately 60% CPU time savings. The **algorithms** for the flow solver and the Kirchhoff method and their coupling are described in this paper, and results for some example radiation and scattering problems are presented. (29 Refs)

Subfile: A C

Descriptors: aeroacoustics; parallel **algorithms**; physics computing

Identifiers: computational aeroacoustics; **parallel processors**; computational physics; flow associated noise; fluid dynamics equations; flow noise problems; Navier-Stokes equations; nonreflecting **boundary** conditions; **moving** surface Kirchhoff method; far-field predictions; spatial discretization techniques; data **parallel processors**

Class Codes: A4328 (Aeroacoustics and atmospheric sound); A4725M (Noise (turbulence generated)); C7320 (Physics and chemistry computing); C4240P (Parallel programming and algorithm theory); C6110P (Parallel programming)

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17/5/19 (Item 7 from file: 2)

DIALOG(R) File 2:INSPEC

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04151911 INSPEC Abstract Number: A9212-9260-067

Title: A hierarchical stochastic model of large-scale atmospheric circulation patterns and multiple station daily precipitation

Author(s): Wilson, L.L.; Lettenmaier, D.P.; Skillingstad, E.

Author Affiliation: Dept. of Civil Eng., Washington Univ., Seattle, WA, USA

Journal: Journal of Geophysical Research vol.97, no.D3 p.2791-809

Publication Date: 28 Feb. 1992 Country of Publication: USA

CODEN: JGREA2 ISSN: 0148-0227

U.S. Copyright Clearance Center Code: 0148-0227/92/91JD-02155\$05.00

Conference Title: Chapman Conference on Hydrologic Aspects of Global Climate Change

Conference Date: 12-14 June 1990 Conference Location: Lake Chelan, WA, USA

Language: English Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: A stochastic model of weather states and **concurrent** daily precipitation at multiple precipitation stations is described. Four **algorithms** are investigated for classification of daily weather states: **k - means clustering**, fuzzy **clustering**, principal components, and principal components coupled with **k - means clustering**. A semi-Markov model with a geometric distribution for within-class lengths of stay is used to describe the evolution of weather classes. A hierarchical modified Polya urn model is used to simulate precipitation conditioned on the regional weather type. An information measure that considers both the probability of weather class occurrence and conditional precipitation probabilities is developed to quantify the extent to which each of the weather classification schemes discriminates the precipitation states (rain-no rain) at the precipitation stations. The model is implemented using National Meteorological **Center** historical atmospheric observations for the period 1964-1988 mapped to 5 degrees *5 degrees grid cells over the eastern North Pacific, and three precipitation stations west of the Cascade mountain range in the state of Washington. (58 Refs)

Subfile: A

Descriptors: atmospheric **movements** ; atmospheric precipitation
Identifiers: USA; AD 1964 to 1988; hierarchical stochastic model;
large-scale atmospheric circulation patterns; multiple station daily
precipitation; weather states; **k - means clustering** ; fuzzy **clustering**
; principal components; Markov model; Polya urn model; weather
classification schemes; rain; eastern North Pacific; Washington
Class Codes: A9260B (General circulation); A9260J (Water in the
atmosphere (humidity, clouds, evaporation, precipitation))

17/5/20 (Item 8 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2003 Institution of Electrical Engineers. All rts. reserv.

03847347 INSPEC Abstract Number: A91047883

Title: Method of solving an internal two-phase Stefan problem with a nonlinear boundary condition

Author(s): Medvedskii, R.I.; Sigunov, Yu.A.

Journal: Teplofizika Vysokikh Temperatur vol.28, no.2 p.291-300

Publication Date: March-April 1990 Country of Publication: USSR

CODEN: TVYTAP ISSN: 0040-3644

Translated in: High Temperature vol.28, no.2 p.217-26

Publication Date: March-April 1990 Country of Publication: USA

CODEN: HITEA4 ISSN: 0018-151X

U.S. Copyright Clearance Center Code: 0018-151X/90/2802-0217\$12.50

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: A method is proposed which makes it possible to **simultaneously** determine the phase **boundary** and the temperature on the surface of solids of simple form (slabs, cylinders, and spheres) by solving a system of two ordinary differential equations. A method is described for estimating the lower and upper bounds of the velocity of the front. These estimates are then used to estimate the error of the method. Approximations are presented for the **mean** temperature of the internal region, which is used to express the component of heat flux on the **moving boundary**. The method considers the lag in phase transformation when heat exchange with the environment is nonlinear. With the solidification of castings as an example, a comparison is made between the solutions obtained by the proposed method and **calculations** performed by the difference method. The two methods agree well. (12 Refs)

Subfile: A

Descriptors: heat transfer

Identifiers: surface temperature; lower bounds; front velocity; nonlinear heat exchange; internal two-phase Stefan problem; nonlinear **boundary** condition; phase **boundary** ; slabs; cylinders; spheres; ordinary differential equations; upper bounds; **mean** temperature; internal region; heat flux; **moving boundary** ; phase transformation; solidification; castings; difference method

Class Codes: A4725Q (Convection and heat transfer)

17/5/21 (Item 9 from file: 2)
DIALOG(R)File 2:INSPEC
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03608210 INSPEC Abstract Number: A90061000

Title: The theory of the drift of ions in a gas

Author(s): Jones, J.E.

Author Affiliation: Sch. of Math., Univ. of Wales Coll. of Cardiff, UK

Journal: Journal of Physics D (Applied Physics) vol.23, no.2 p. 164-74

Publication Date: 14 Feb. 1990 Country of Publication: UK

CODEN: JPAPBE ISSN: 0022-3727

U.S. Copyright Clearance Center Code: 0022-3727/90/020164+11\$03.50

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: This paper considers the general theory of the time-dependent drift of ions in a gas under the action of their own electric field

together with any externally imposed electric field. The mean free path is taken as small enough for the macroscopic movement of the ions to be in the direction of the field. Diffusion is ignored and the currents are quantified by the use of mobility coefficients. A charge-drift equation originally given by Waters (1970) is generalised for multiple ionic species, and it is shown how ionisation can be taken into account. Characteristic times of approach to the asymptotic state when the charge density varies inversely with time are considered. The problem of the general motion of a charged cloud of many species of ions has been formulated. This gives rise to simultaneous integro-differential equations with moving boundaries. An alternative approach using field theory is shown to give a simple linear law of volumar expansion with time. This holds for all cases when a single mobility coefficient is appropriate. The asymptotic shape of a simple cloud of ionic charge is proved to be a sphere. Modifications to this when the volume is multiply connected and when many ionic species are present are discussed. The rate of transfer of the electrical field energy (power loss) to the thermodynamic energy of the gas is considered. This results in a variational principle being identified from a physical basis which is equivalent to the charge-drift equation. The movement of either single or multiple ionic species can be treated by this approach which could form the basis of a new finite-element method for problems involving the drift of gaseous ions. (10 Refs)

Subfile: A

Descriptors: ion mobility; variational techniques

Identifiers: ion drift; gas; electric field; mobility coefficients; charge-drift equation; ionisation; charged cloud; integro-differential equations; field theory; power loss; thermodynamic energy; variational principle; finite-element method

Class Codes: A5150 (Electrical phenomena in gases)

17/5/22 (Item 1 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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00698799 JICST ACCESSION NUMBER: 88A0564572 FILE SEGMENT: JICST-E

Deformation of merged Voronoi diagrams with translation.

TOKUYAMA T (1)

(1) IBM Research, Tokyo, JPN

Joho Shori Gakkai Kenkyu Hokoku, 1988, VOL.88,NO.36(AL-1), PAGE.1.2.1-1.2.8, FIG.4, REF.8

JOURNAL NUMBER: Z0031BAO ISSN NO: 0919-6072

UNIVERSAL DECIMAL CLASSIFICATION: 681.3.01 681.3:621.397.3

LANGUAGE: English COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

ABSTRACT: A Voronoi diagram of moving data points is an interesting target to apply to simulated deformation of planar subdivision. As a special case, we consider the deformation of the topological structure of a Voronoi diagram of points moving continuously in two groups. Let P be a set of static points and $Q(t)$ be a set of moving points with time parameter t , where $0 \leq t \leq T$. The Voronoi diagram $V(t)$ of the point set $P \cup Q(t)$ is deformed as time passes. The history of $V(t)$ means the list of all "catastrophic epochs". In this paper, we give an algorithm for processing the history of $V(t)$ when $Q(t)$ moves by simultaneous translation. Our algorithm needs $O(n^2 \log n)$ time and $O(n^2)$ space to store the history in order to retrieve the $V(t)$ of any epoch in linear time. (author abst.)

DESCRIPTORS: geometry; computer science; algorithm theory; computational complexity; topology; catastrophe; computational geometry

BROADER DESCRIPTORS: mathematics; natural science; science; computation theory; theory

CLASSIFICATION CODE(S): JB02000A; JE04000X

17/5/23 (Item 1 from file: 6)

DIALOG(R)File 6:NTIS

1449172 NTIS Accession Number: DE88706133

Perturbation Measurements in Reactor LR-0 and Their Evaluation

Rypar, W. ; Faehrmann, K. H.

Ustav Jaderneho Vyzkumu, Rez (Czechoslovakia).

Corp. Source Codes: 100962000; 6625453

Report No.: UJV-8402-R-A

Jul 88 24p

Languages: English

Journal Announcement: GRAI8918

U.S. Sales Only. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

NTIS Prices: PC A03/MF A01

Country of Publication: Czechoslovakia

To investigate space-dependent kinetic effects in reactors of the WWER-1000 type, two **central** and one eccentric perturbation measurements were performed in the zero power reactor LR-0 of the UJV Rez (CSSR) by trapeze-form **movements** of an absorber **cluster**. The measurements were based on a computer aided CAMAC system for the **simultaneous** data acquisition of 20 spatially distributed neutron detectors and for **cluster movement** control. The measurements were followed by a detailed evaluation in the ZfK Rossendorf (GDR) with respect to the **calculation** results of flux response obtained by nodal code HEXDYN3D, the aim of which was to demonstrate the limits of the point reactor model and to account for space-dependent effects by approximative methods. A sensitive check of the **calculation** methods was made possible especially by the eccentric perturbation where the space dependent effects, due to a larger distance of **cluster movement**, were most significant. (author). 17 figs., 9 refs. (Atomindex citation 20:027074)

Descriptors: LR-0 Reactor; *Reactor Kinetics; CAMAC System; Computer **Calculations**; Data Processing; Disturbances; Neutron Detection; Neutron Flux; Reactivity; Simulation; Space Dependence; WWER Type Reactors

Identifiers: *Foreign technology; ERDA/220600; NTISINIS

Section Headings: 77K (Nuclear Science and Technology--Reactor Physics)

17/5/24 (Item 1 from file: 144)

DIALOG(R) File 144:Pascal

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12110283 PASCAL No.: 95-0340330

Segmentation of brain parenchyma and cerebrospinal fluid in multispectral magnetic resonance images

LUNDEVOLD A; STORVIK G

Univ. bergen, sect. medical image analysis pattern recognition, 5009 Bergen, Norway

Journal: IEEE transactions on medical imaging, 1995, 14 (2) 339-349

ISSN: 0278-0062 CODEN: ITMID4 Availability: INIST-222Y;

354000050853460150

No. of Refs.: 56 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: USA

Language: English

This paper presents a new method to segment brain parenchyma and cerebrospinal fluid spaces automatically in routine axial spin echo multispectral MR images. The **algorithm** **simultaneously** incorporates information about anatomical **boundaries** (shape) and tissue signature (grey scale) using a priori knowledge. The head and brain are divided into four regions and seven different tissue types. Each tissue type is modeled by a multivariate Gaussian distribution $N(\mu_{SUB\ c}, \Sigma_{SUB\ c})$. Each region is associated with a finite mixture density corresponding to its constituent tissue types. Initial estimates of tissue parameters $(\mu_{SUB\ c}, \Sigma_{SUB\ c})$ are obtained from **k - means clustering** of a single slice used for training. The first **algorithmic** step uses the EM- **algorithm** for

adjusting the initial tissue parameter estimates to the MR data of new patients. The second step uses a recently developed model of dynamic contours to detect three simply closed nonintersecting curves in the plane, constituting the arachnoid/dura mater **boundary** of the brain, the border between the subarachnoid space and brain parenchyma, and the inner border of the parenchyma toward the lateral ventricles. The model, which is **formulated** by energy functions in a Bayesian framework, incorporates a priori knowledge, smoothness constraints, and **updated** tissue type parameters. Satisfactory maximum a posteriori probability estimates of the closed contour curves defined by the model were found using simulated annealing

English Descriptors: Parenchyma; Brain (vertebrata); Segmentation; Nuclear magnetic resonance imaging; Cerebrospinal fluid; **Algorithm** ;
Experimental study

French Descriptors: Parenchyme; Encephale; Segmentation; Imagerie RMN;
Liquide cephalorachidien; **Algorithme** ; Etude experimentale

Classification Codes: 002B24A06

17/5/25 (Item 1 from file: 434)

DIALOG(R) File 434:SciSearch(R) Cited Ref Sci
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08452824 Genuine Article#: K9587 Number of References: 146

Title: THE EMERGING PARADIGM OF COMPUTATIONAL VISION

Author(s): ZUCKER SW

Corporate Source: MCGILL UNIV,MCGILL RES CTR INTELLIGENT MACHINES/MONTREAL
H3A 2T5/QUEBEC/CANADA/

Journal: ANNUAL REVIEW OF COMPUTER SCIENCE, 1987, V2, P69-89

Language: ENGLISH Document Type: REVIEW, BIBLIOGRAPHY

Geographic Location: CANADA

Subfile: SciSearch; CC ENGI--Current Contents, Engineering, Technology &
Applied Sciences

Journal Subject Category: COMPUTER APPLICATIONS & CYBERNETICS

Research Fronts: 86-1780 008 (APPARENT MOTION; ONE-EYED STEREO; TRACKING
MODELED OBJECTS USING BINOCULAR IMAGES)

86-0944 006 (INTRINSIC CONNECTIONS OF MACAQUE STRIATE CORTEX;

SIMULTANEOUS COLOR CONSTANCY; SPATIAL VISION; LATERAL
GENICULATE-NUCLEUS; SPATIAL-FREQUENCY DISCRIMINATION)

86-6334 003 (PROBABILISTIC RELAXATION LABELING; COMPUTER VISION;
SEGMENTATION METHODS; **PARALLEL PROCESSING** ; COMPATIBILITY FUNCTIONS)

86-0032 001 (LONG-RANGE ISING SPIN-GLASSES; SPIN-GLASS TRANSITION; SK
MODEL; DYNAMIC **MEAN** -FIELD THEORY; DZYALOSHINSKY-MORIYA ANISOTROPY IN
REENTRANT ALLOYS)

86-0443 001 (COMPUTERIZED PATTERN-RECOGNITION; CUTICULAR HYDROCARBONS;
IMPORTED FIRE ANTS)

86-0759 001 (NEURAL NETWORKS; HOPFIELD MODEL; ASSOCIATIVE MEMORY
MODELS)

86-1627 001 (EXPERT SYSTEMS; ARTIFICIAL-INTELLIGENCE IN MEDICAL
DIAGNOSIS; COMPREHENSIVE DECISION-SUPPORT SYSTEM)

86-1629 001 (3-DIMENSIONAL OBJECTS; SOLID MODELING DATA-STRUCTURES;
QUADTREE REPRESENTATION; LINEAR OCTREES; GEOMETRICAL TRANSFORMATIONS;
CONSTRUCTIVE GEOMETRY)

86-2891 001 (**MOVING BOUNDARY** -PROBLEMS; LINEAR
COMPLEMENTARITY-PROBLEMS; STEFAN PROBLEM; NETWORK MODELS;
FINITE-ELEMENT METHOD; PHASE-CHANGE PROBLEMS)

86-3031 001 (CAT DORSAL LATERAL GENICULATE-NUCLEUS; RETINAL
GANGLION-CELLS; VISUAL DEPRIVATION; MONOCULARLY DEPRIVED KITTENS; CATS
RETINA; VISUAL-CORTEX DEVELOPMENT)

86-3859 001 (DIGITAL IMAGE-PROCESSING; MULTIPLE VIEWS; SOFTWARE SYSTEM)

86-5559 001 (INTERACTIVE 3-DIMENSIONAL GRAPHICAL SYSTEM; GRAPHICS
SOFTWARE PACKAGE; GRAPHIC **ALGORITHMS** ; COMPUTER VISION; 3D
RECONSTRUCTION)

86-7416 001 (FROG OPTIC TECTUM; EVOLUTION OF THE VISUAL BRAIN;
RETINOTECTAL DEVELOPMENT; VERTEBRATE RETINA; MOTION DISCRIMINATION;

WERTHEIMER M, 1938, P301, PSYCHOL FORSCH
 WILSON HR, 1979, V19, P19, VISION RES
 WINOGRAD S, 1963, RELIABLE COMPUTATION
 WITKIN A, 1983, HUMAN MACHINE VISION
 WITKIN A, 1982, P36, P AAAI
 WITKIN A, 1986, PIXELS PREDICATES
 WITKIN AP, 1981, V17, P17, ARTIF INTELL
 WOODHAM R, 1981, V17, P17, ARTIF INTELL
 ZEKEI S, 1985, V315, P322, NATURE
 ZUCKER SW, 1985, V32, P74, COMPUT VISION GRAPH
 ZUCKER SW, 1979, V9, P213, COMPUTER GRAPHICS IM
 ZUCKER SW, 1986, V5, P121, HUMAN NEUROBIOLOGY
 ZUCKER SW, 1976, V5, P419, PERCEPTION
 ZUCKER SW, 1975, 4TH P INT JOINT C AR

17/5/26 (Item 1 from file: 34)

DIALOG(R) File 34:SciSearch(R) Cited Ref Sci
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07716360 Genuine Article#: 200KR Number of References: 40

Title: Dynamical cluster analysis of cortical fMRI activation

Author(s): Baune A (REPRINT) ; Sommer FT; Erb M; Wildgruber D; Kardatzki B; Palm G; Grodd W

Corporate Source: UNIV TUBINGEN, DEPT NEURORADIOL, CNS, SECT EXPT MR/D-72076
 TUBINGEN//GERMANY/ (REPRINT); UNIV ULM, DEPT NEURAL INFORMAT
 PROC/D-89069 ULM//GERMANY/

Journal: NEUROIMAGE, 1999, V9, N5 (MAY), P477-489

ISSN: 1053-8119 **Publication date:** 19990500

Publisher: ACADEMIC PRESS INC, 525 B ST, STE 1900, SAN DIEGO, CA 92101-4495

Language: English **Document Type:** ARTICLE

Geographic Location: GERMANY

Subfile: CC LIFE--Current Contents, Life Sciences;

Journal Subject Category: NEUROSCIENCES; RADIOLOGY, NUCLEAR MEDICINE & MEDICAL IMAGING

Abstract: Localized changes in cortical blood oxygenation during voluntary movements were examined with functional magnetic resonance imaging (fMRI) and evaluated with a new dynamical cluster analysis (DCA) method, fMRI was performed during finger movements with eight subjects on a 1.5-T scanner using single-slice echo planar imaging with a 107-ms repetition time, **Clustering** based on similarity of the detailed signal time courses requires besides the used distance measure no assumptions about spatial location and extension of activation sites or the shape of the expected activation time course. We discuss the basic requirements on a **clustering algorithm** for fMRI data. It is shown that with respect to easy adjustment of the quantization error and reproducibility of the results DCA outperforms the standard **h-means algorithm**. In contrast to currently used **clustering** methods for fMRI, like **k - means** or fuzzy **k - means**, DCA extracts the appropriate number and initial shapes of representative signal time courses from data properties during run time. With DCA we **simultaneously** calculate a two-dimensional projection of **cluster centers** (MDS) and **data points** for online visualization of the results, We describe the new DCA method and show for the well-studied motor task that it detects cortical activation loci and provides additional information by discriminating different shapes and phases of hemodynamic responses. Robustness of activity detection is demonstrated with respect to repeated DCA runs and effects of different data preprocessing are shown. As an example of how DCA enables further analysis we examined activation onset times. In areas SMA, M1, and S1 **simultaneous** and sequential activation (in the given order) was found. (C) 1999 Academic Press.

Descriptors--Author Keywords: functional MRI ; **cluster** analysis ; evaluation methods ; motor system

Identifiers--KeyWord Plus(R): PRINCIPAL-COMPONENT ANALYSIS; ECHO FUNCTIONAL MRI; HUMAN VISUAL-CORTEX; CEREBRAL-CORTEX; DATA SETS; **MOVEMENT**; BRAIN; TASK; QUANTIFICATION; LOCALIZATION

Cited References:

BANDETTINI PA, 1995, P335, DIFFUSION PERFUSION
 BANDETTINI PA, 1993, V30, P161, MAGNET RESON MED
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17/5/27 (Item 2 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
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07533856 Genuine Article#: 177TP Number of References: 41

Title: Mechanisms of thermo-solutal transport and segregation in high-pressure liquid-encapsulated Czochralski crystal growth

Author(s): Zou YF (REPRINT) ; Wang GX; Zhang H; Prasad V

Corporate Source: HIBBITT KARLSSON & SORENSON INC,1080 MAIN

ST/PAWTUCKET//RI/02860 (REPRINT); SUNY STONY BROOK,CONSORTIUM CRYSTAL GROWTH RES/STONY BROOK//NY/11794

Journal: JOURNAL OF HEAT TRANSFER-TRANSACTIONS OF THE ASME, 1999, V121, N1 (FEB), P148-159

ISSN: 0022-1481 Publication date: 19990200

Publisher: ASME-AMER SOC MECHANICAL ENG, 345 E 47TH ST, NEW YORK, NY 10017

Language: English Document Type: ARTICLE

Geographic Location: USA

Subfile: CC ENGI--Current Contents, Engineering, Computing & Technology

Journal Subject Category: ENGINEERING, MECHANICAL; THERMODYNAMICS

Abstract: The mechanism of dopant transport and segregation in high-pressure liquid-encapsulated Czochralski (HPLEC) grown Ill-V compound crystals (e.g., GaAs, InP) has been numerically studied using an integrated model, MASTRAPP. The model approximates the melt flow in the crucible as a quasi-steady-state, laminar, and axisymmetric flow, but the gas flow is considered as turbulent. Based on the physics of the growth process, a two-time-level scheme has been implemented where

the dopant transport and growth are simulated at a smaller time scale while flow and temperature solutions are obtained from quasi-static calculations. Detailed numerical analyses are performed for the conditions of pure crystal rotation, pure thermally driven natural convection, and pure crucible rotation as well as for mixed flow with all of these forces present simultaneously. The dopant transport and segregation in these cases are well correlated to the corresponding melt flow pattern. Very weak radial segregation is predicted for pure crystal rotation because the resulting melt flow leads to a fairly flat solute boundary layer. The natural convection, on the other hand produces a nonuniform boundary layer along the melt/crystal interface. This leads to a strong radial segregation with a high concentration along the central axis of the crystal. The crucible rotation has a similar effect. The combined effect of all of these flow mechanisms produces a strong radial segregation, whose extent depends on the relative strength of the driving forces. In all of these cases, strong melt flows lead to thin boundary layers that result in decreased longitudinal segregation. The predictions agree well with the experimental observations reported in the literature.

Descriptors--Author Keywords: control ; crystal growth ; heat transfer ; modeling ; moving boundaries

Identifiers--KeyWord Plus(R): ADAPTIVE-GRID-GENERATION; INP CRYSTALS; MELT; CONVECTION; INTERFACE; SIMULATION; MACROSEGREGATION; SOLIDIFICATION; COEFFICIENT; DYNAMICS

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17/5/28 (Item 3 from file: 34)
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05322413 Genuine Article#: VQ428 Number of References: 41
Title: SIMULTANEOUS ESTIMATION OF TRANSMISSIVITY VALUES AND ZONATION
Author(s): EPPSTEIN MJ; DOUGHERTY DE
Corporate Source: UNIV VERMONT, DEPT CIVIL & ENVIRONM ENGN, RES
CTRGROUNWATER REMEDIAT DESIGN/BURLINGTON//VT/05405
Journal: WATER RESOURCES RESEARCH, 1996, V32, N11 (NOV), P3321-3336
ISSN: 0043-1397
Language: ENGLISH Document Type: ARTICLE
Geographic Location: USA
Subfile: SciSearch; CC AGRI--Current Contents, Agriculture, Biology &
Environmental Sciences; CC ENGI--Current Contents, Engineering,
Technology & Applied Sciences
Journal Subject Category: LIMNOLOGY; ENVIRONMENTAL SCIENCES; WATER
RESOURCES

Abstract: The extended Kalman filter (EKF) has long been recognized as a powerful, yet computationally intensive, methodology for stochastic parameter estimation: Three improvements to traditional **algorithms** are presented and applied to heterogeneous transmissivity estimation. First, the costly EKF covariance **updates** are replaced by more efficient approximations. Second, the zonation structure of the distributed parameter field being estimated is dynamically determined and refined using a **partitioned clustering algorithm**. Third, a new method of merging first and second moments of random fields that have heterogeneous statistics is introduced. We apply this method, called random field union, as an alternative to conventional random field averaging for the systematic shrinking of covariance matrices as the dimensionality of the parameter space is reduced. The effects of these three improvements are examined. In applications to steady state groundwater flow test problems, we show that the first and second improvements reduce the computational time requirements dramatically, while the second and third can improve the accuracy and stability of the results. The resulting integrated method is successfully applied to a larger, more realistic calibration test case under steady and cyclostationary flow conditions (similar to regular seasonal fluctuations). When flow is steady, the method can be viewed as iterative; when flow is transient, the method is fully recursive.

Identifiers--KeyWords Plus: NUMERICAL GROUNDWATER SIMULATIONS;
PARAMETER-IDENTIFICATION; STOCHASTIC-ANALYSIS; CONTAMINANT TRANSPORT;
AQUIFER REMEDIATION; DATA ASSIMILATION; SOLUTE TRANSPORT; INVERSE
PROBLEM; KALMAN FILTER; UNCERTAINTY

Research Fronts: 94-0419 001 (UNIFIED CRITICAL-STATE BOUNDING-SURFACE
PLASTICITY MODEL FOR SOIL; CYCLIC PATHS; 3-DIMENSIONAL INVERSION;
EXTENDED BAYESIAN METHOD; SOFT CLAY)

94-1003 001 (STRUCTURAL RELIABILITY; PROBABILITY-BASED CODIFIED DESIGN;
SIMPLIFIED LOAD COMBINATION FACTOR; PRESTRESSED CONCRETE BEAMS)

94-5820 001 (KALMAN FILTER; DATA ASSIMILATION IN NONLINEAR OCEAN
MODELS; SIMPLE ESTIMATION **ALGORITHM** FOR PERFORMANCE-SEEKING
CONTROLLERS; NOISY IMAGE SEQUENCES)

94-6371 001 (NEURAL NETWORKS; **K - MEANS CLUSTERING**; PAI-2 IN BREAST
CARCINOMAS; MULTIVARIATE DATA-ANALYSIS)

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17/5/29 (Item 4 from file: 34)

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02396432 Genuine Article#: KY137 Number of References: 26

Title: DISTRIBUTED DYNAMICS IN NEURAL NETWORKS

Author(s): HERZ AVM; MARCUS CM

Corporate Source: CALTECH,DIV CHEM,PHYS COMPUTAT

LAB,139-74/PASADENA//CA/91125; HARVARD UNIV,DEPT

PHYS/CAMBRIDGE//MA/02138; HARVARD UNIV,DIV APPL SCI/CAMBRIDGE//MA/02138

Journal: PHYSICAL REVIEW E, 1993, V47, N3 (MAR), P2155-2161

ISSN: 1063-651X

Language: ENGLISH Document Type: ARTICLE

Geographic Location: USA

Subfile: SciSearch; CC PHYS--Current Contents, Physical, Chemical & Earth
 Sciences

Journal Subject Category: PHYSICS, MATHEMATICAL; PHYSICS, FLUIDS & PLASMAS

Abstract: We analyze the dynamics and statistical mechanics of attractor
 neural networks with 'distributed' **updating** rules in which groups
 of one or more neurons are **updated simultaneously**. Such partially
 parallel **updating** schemes are a **central** feature of neural-network
 architectures that use many processors, implemented either on special
 multiprocessor hardware, or among many computers linked over a network.
 Several **updating** rules are classified and discussed; these rules
 generalize the parallel dynamics of the Little model and the
 one-at-a-time dynamics of the Hopfield model. Analytic results
 presented herein include a stability criterion that specifies
 sufficient conditions under which distributed dynamics lead to
 fixed-point attractors. For binary neurons with block-sequential
updating and a Hebbian learning rule, the storage capacity is found as
 a function of the number of **update groups**. Several open problems
 are also discussed.

Identifiers--KeyWords Plus: STATISTICAL-MECHANICS; TEMPORAL ASSOCIATION;
 SEQUENCES; SYSTEMS; DELAYS

Research Fronts: 91-0754 007 (NEURAL NETWORKS; LOCAL LEARNING

PRESCRIPTION FOR ARBITRARY CORRELATED PATTERNS; STATISTICAL-MECHANICAL
FORMULATION OF THE WILLSHAW MODEL)

91-2005 002 (PARALLEL ASYNCHRONOUS **ALGORITHMS** ; LINEAR

PARTIAL-DIFFERENTIAL EQUATIONS; INEQUALITY CONSTRAINTS, NONLINEAR
BOUNDARY -VALUE-PROBLEMS)

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17/5/30 (Item 5 from file: 34)

DIALOG(R) File 34:SciSearch(R) Cited Ref Sci
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01771254 Genuine Article#: HZ711 Number of References: 53

Title: **PARALLEL ALGORITHMS FOR STATISTICAL PHYSICS PROBLEMS**

Author(s): HEERMANN DW; BURKITT AN

Corporate Source: UNIV HEIDELBERG, INST THEORET PHYS, PHILOSOPHENWEG

19/W-6900 HEIDELBERG//GERMANY//; BERG UNIV GESAMTHSCH

WUPPERTAL, FACHBEREICH PHYS/W-5600 WUPPERTAL 1//GERMANY/

Journal: TOPICS IN APPLIED PHYSICS, 1992, V71, P53-74

Language: ENGLISH Document Type: REVIEW

Geographic Location: GERMANY

Subfile: SciSearch

Journal Subject Category: PHYSICS, APPLIED

Abstract: The rapid development of computer simulation methods [3.1-5] over the last couple of years has been matched only by the equally rapid advances that have taken place in the field of computer technology. The many-fold increases in the speed, memory size and the flexibility of computers has opened up a vast number of new possibilities for studying science and engineering problems, and enabled both new insights and new lines of enquiry. However, the complexity of the problems studied and the accuracy of the results required are such that the computing resources available are hardly able to keep up with the demand.

The last decade has been the birth of a very different type of computer architecture that provides a qualitative improvement in machine performance, namely the development of parallel computers. There are an astonishing diversity of such parallel machines, and they have been used to study an equally wide variety of problems. The performance of the present generation of parallel machines is now overtaking that of the best scalar and vector machines, particularly on problems for which there are suitable parallel **algorithms**.

In a chapter like this it is clearly not possible to provide a comprehensive presentation of all the methods and **algorithms** that are used, nor all the machines that are available, to simulate models of interest in physics. Insofar as such reviews [3.6] and articles are

available, we provide appropriate references to the literature. We do seek to provide, however, a flavour of the **central** features that are involved in computer simulations on parallel computers, and we seek to illustrate these with examples. Some of the various paradigms for parallel computing are introduced as a **means** of distinguishing both different types of **algorithms** and different types of machines for carrying out simulations. We then present a number of such **algorithms** that are appropriate for Single Instruction-Multiple Data (SIMD) machines, followed by **algorithms** that are appropriate for Multiple Instruction Multiple Data (MIMD) machines.

But before proceeding to look at various paradigms of parallel computing, we need to make some remarks about the importance of parallelism for computational science. The computer simulation of a physical system is in essence a numerical experiment that differs from its laboratory counterpart in a number of crucial ways. In a computer simulation we have the freedom to choose both the type of model we wish to study and the conditions (i.e., temperature, interparticle couplings, etc.) under which we wish to study it, often in ways that are not possible in a laboratory experiment. This gives us an enormous range of phenomena that can be investigated and a tremendous flexibility in investigating even the basic assumptions of our understanding of such systems, although we must recognise also that limitations will be encountered. These limitations, which arise from the finite simulation time, finite system size and so forth, are reflected in the accuracy of the results that we obtain.

The most obvious advantage offered by parallel computing is the promise of vast increases in computer resources, either existing or to become available in the near future. Possibilities still exist for increasing the performance of single-processor machines, but it is now apparent that such increases are clearly limited. By using a large number of processors to solve parts of a problem **simultaneously**, however, we have the possibility of almost unlimited computing power. The extent to which it is feasible or even possible to achieve this in practice is a question that we will examine here, both in relation to the particular architecture of the parallel computer and the type of **algorithm** that is implemented. The speed-up that it is possible to gain by using a multi-processor machine is a **central** concept, and we will look more closely at how best to define this quantity and what factors play a role in determining the speed-up that a parallel computer is actually able to deliver in regard to a specific problem.

In addition to this raw increase in computer power, however, the study of parallelism can bring a fresh view of physical processes with it. The inherent parallelism of many processes in nature becomes more transparent and is capable of being reflected in the models and methods we use to understand these physical processes. This new perspective often allows us to see another facet of the problem that was not apparent through serial methods of analysis and solution.

Identifiers--KeyWords Plus: MOLECULAR-DYNAMICS; TRANSPUTER ARRAYS; ISING-MODEL; SIMULATION; SYSTEMS

Research Fronts: 90-2757 004 (**CLUSTER UPDATE** MONTE-CARLO; O(N) MODELS; SWENDSEN-WANG DYNAMICS; 3D ISING DROPLETS; JULIA SET)
 90-0019 001 (SIMULATED ANNEALING; QUANTUM STOCHASTIC OPTIMIZATION; MASSIVELY PARALLEL AUTOMATIC TEST-GENERATION)
 90-0064 001 (3-DIMENSIONAL MAGNETIC-RESONANCE IMAGES; VOLUME DATA; DELAUNAY TRIANGULATION; SOLID MODELS)
 90-0272 001 (CELLULAR AUTOMATA; LATTICE GASES MIXTURES MODELS; KINETIC OSCILLATIONS IN THE CATALYTIC CO OXIDATION)
 90-0365 001 (SYSTOLIC ARRAYS; PARALLEL **ALGORITHM** ; DESIGN OF VLSI ARCHITECTURES)
 90-0648 001 (MOLECULAR-DYNAMICS SIMULATION; PHASE-EQUILIBRIA FOR THE 2-DIMENSIONAL LENNARD-JONES FLUID; INFRARED-ABSORPTION SPECTRA OF LARGE WATER **CLUSTERS**)
 90-2144 001 (N-COMPONENT MODEL; **CLUSTER UPDATE** MONTE-CARLO; CRITICAL-BEHAVIOR IN 3 DIMENSIONS; MINIMAL RENORMALIZATION; HIGH-TEMPERATURE SERIES; MASS DENSITY)

90-2635 001 (PHASE-SIMULATION DYNAMICS OF POLYCARBONATE-POLYMETHYL
METHACRYLATE BLENDS; MULTIARMED STAR POLYMERS; SPINODAL DECOMPOSITION;
RELAXATION BEHAVIOR)
90-7166 001 (MONTE-CARLO SIMULATION; 2-DIMENSIONAL SELF-AVOIDING WALKS;
DENSE POLYMER SYSTEMS; LATTICE MODELS)

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17/5/31 (Item 6 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
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Title: PHASE-EQUILIBRIA AND CRITICAL-BEHAVIOR OF SQUARE-WELL FLUIDS OF
VARIABLE WIDTH BY GIBBS ENSEMBLE MONTE-CARLO SIMULATION

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Abstract: The vapor-liquid phase equilibria of square-well systems with hard-sphere diameters σ , well-depths ϵ , and ranges $\lambda = 1.25, 1.375, 1.5, 1.75$, and 2 are determined by Monte Carlo simulation. The two bulk phases in coexistence are simulated **simultaneously** using the Gibbs ensemble technique. Vapor-liquid coexistence curves are obtained for a series of reduced temperatures between about $T(r) = T/T(c) = 0.8$ and 1 , where $T(c)$ is the critical temperature. The radial pair distribution functions $g(r)$ of the two phases are calculated during the simulation, and the results extrapolated to give the appropriate contact values $g(\sigma)$, $g(\lambda - \sigma)$, and $g(\lambda - \sigma +)$. These are used to calculate the vapor-pressure curves of each system and to test for equality of pressure in the coexisting vapor and liquid phases. The critical points of the square-well fluids are determined by analyzing the density-temperature coexistence data using the first term of a Wegner expansion. The dependence of the reduced critical temperature $T(c)^* = kT(c)/\epsilon$, pressure $P(c)^* = P(c)\sigma^3/\epsilon$, number density $\rho(c)^* = \rho(c)\sigma^3$, and compressibility factor $Z = P/(\rho - kT)$, on the potential range λ , is established. These results are compared with existing data obtained from perturbation theories. The shapes of the coexistence curves and the approach to criticality are described in terms of an apparent critical exponent β . The curves for the square-well systems with $\lambda = 1.25, 1.375, 1.5$, and 1.75 are very nearly cubic in shape corresponding to near-universal values of β (β almost-equal-to 0.325). This is not the case for the system with a longer potential range; when $\lambda = 2$, the coexistence curve is closer to quadratic in shape with a near-classical value of β (β almost-equal-to 0.5). These results seem to confirm the view that the departure of β from a **mean**-field or classical value for temperatures well below critical is unrelated to long-range, near-critical fluctuations.

Identifiers--KeyWords Plus: BORN-GREEN EQUATION; RADIAL-DISTRIBUTION FUNCTION; PERCUS-YEVICK EQUATION; LENNARD-JONES FLUID; PERTURBATION-THEORY; CRITICAL-POINT; THERMODYNAMIC PROPERTIES; COMPUTER-SIMULATIONS; RANGE EXPANSION; HARD-SPHERES

Research Fronts: 90-0648 002 (MOLECULAR-DYNAMICS SIMULATION; PHASE-EQUILIBRIA FOR THE 2-DIMENSIONAL LENNARD-JONES FLUID; INFRARED-ABSORPTION SPECTRA OF LARGE WATER **CLUSTERS**)
90-0019 001 (SIMULATED ANNEALING; QUANTUM STOCHASTIC OPTIMIZATION; MASSIVELY PARALLEL AUTOMATIC TEST-GENERATION)
90-0106 001 (LIQUID WATER; MOLECULAR-DYNAMICS SIMULATION; FREE-ENERGY PERTURBATION **CALCULATIONS**; DOUBLE DNA HELIX)
90-0517 001 (DENSITY FUNCTIONAL THEORY; INHOMOGENEOUS HARD-SPHERE FLUID; FREEZING OF SIMPLE LIQUIDS)
90-2144 001 (N-COMPONENT MODEL; **CLUSTER UPDATE** MONTE-CARLO; CRITICAL-BEHAVIOR IN 3 DIMENSIONS; MINIMAL RENORMALIZATION; HIGH-TEMPERATURE SERIES; MASS DENSITY)
90-3462 001 (CURVED INTERFACE; FREE-ENERGY MODEL FOR THE INHOMOGENEOUS HARD-SPHERE FLUID; IMMISCIBLE LIQUIDS; VESICLE FORMATION)

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Title: THE KCTG 1ST CLINICAL-EXPERIENCES WITH THE KINETOCARDIOTOCOGRAM

Author(s): SCHMIDT W; GNIRS J

Corporate Source: UNIV HOMBURG, FRAUENKLIN, POLIKLIN &

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Journal Subject Category: OBSTETRICS & GYNECOLOGY

Abstract: 160 woman patients in whom the course of pregnancy was uneventful of pathological (intrauterine growth retardation, percentile < 5) were investigated at the Department of Obstetrics and Gynaecology of the University of Homburg/Saar between the 28th and 42nd week of pregnancy, using a newly developed cardiotocograph (HP M1350A Hewlett-Packard, Boblingen, FRG). By **means** of the kinetocardiogram (KCTG), fetal mobility (fetal **movements** of the whole body or of the extremities) was recorded **simultaneously** with the conventional recording of the fetal heart rate and uterine contractions. One of the aims in developing the KCTG was to record as far as possible all fetal **movements** synchronous to the recordings of heart rate and uterine contractions. To this end, the recording **algorithm** of the KCTG was adapted to the examination results obtained by two **simultaneously** operating ultrasound investigators. After the 28th week of pregnancy it was possible to record by the KCTG fetal " **movement clusters** " (combined body and limb **movements**) independent of the weight of the fetus and of amniotic fluid volume or positional anomalies, reliably and with good correlation with the results of the sonographic control investigations ($r = 0.88-0.97$). In cases of intrauterine growth retardation (percentile < 5) a significantly reduced motility was observed on average as early as 13 days before delivery ($p < 0.005$). It must be emphasized that, at this stage, most of the antenatal CTGs were normal. These findings indicate that KCTG can contribute to improved monitoring in high-risk pregnancies.

Identifiers--KeyWords Plus: REAL-TIME ULTRASOUND; FETAL HEART-RATE; BEHAVIORAL STATES; MATERNAL PERCEPTION; **MOVEMENTS**; STIMULATION; FETUS; PREGNANCY; TERM

Research Fronts: 89-2602 001 (BASELINE FETAL HEART-RATE IN TERM PREGNANCY; PREMATURE RUPTURE; ACOUSTIC STIMULATION; GROWTH RETARDED FETUSES; SEVERE OLIGOHYDRAMNIOS)

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Cluster algorithms for spin models on MIMD parallel computers
(**Cluster - Algorithmus** fuer Spin-Modelle auf MIMD-Parallelrechnern)
Coddington, PD; Baillie, CF
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ABSTRACT:

Parallel computers are ideally suited to the Monte Carlo simulation of spin models using the standard Metropolis **algorithm**, since it is regular and local. However local **algorithms** have the major drawback that near a phase transition the number of sweeps needed to generate a statistically independent configuration increases as the square of the lattice size. New **algorithms** have recently been developed which dramatically reduce this 'critical slowing down' by **updating clusters** of spins at a time. The highly irregular and non-local nature of these **algorithms** means that they are much more difficult to parallelize efficiently. Here we introduce the new **cluster algorithms**, explain some sequential **algorithms** for identifying and labelling connected **clusters** of spins, and then outline some parallel **algorithms** which have been implemented on MIMD machines.

DESCRIPTORS: **PARALLEL PROCESSING** ; MASSIVELY PARALLEL MACHINES; MONTE CARLO METHOD; SYSTEM SIMULATION; MODEL SIMULATION; PARALLEL **ALGORITHMS** ; ISING MODEL; STOCHASTICS; **CLUSTER FORMING**; COMPUTER PERFORMANCE
IDENTIFIERS: Spin-Modell; Parallelrechner; **Cluster** -Bildung